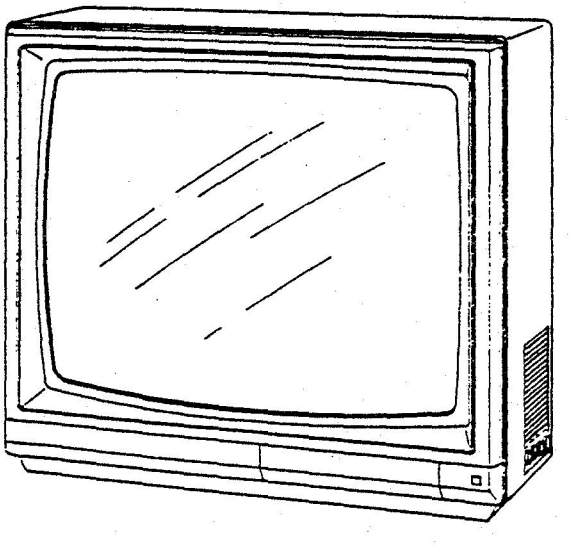
SERVICE MANUAL

ORION

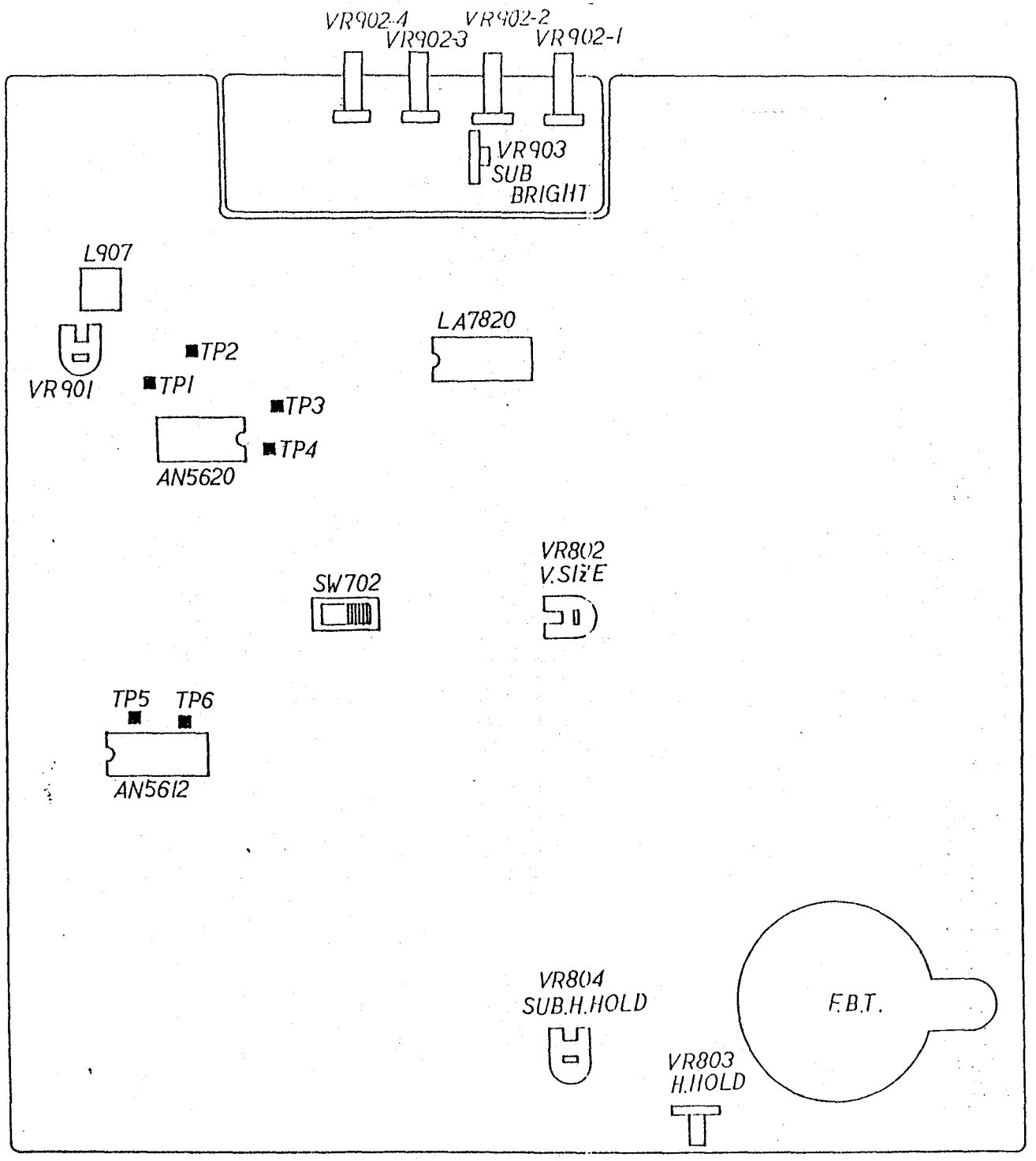
MODEL **CCM-14**

Color Monitor



ELECTRICAL SPECIFICATIONS

PICTURE SIZE	14 inch
SYSTEM	PAL
MAXIMUM OUTPUT POWER	1.5 W
10% THD OUTPUT POWER	1.2 W
SPEAKER	8 ohm
POWER SOURCE	AC 220V
IC	9
TRANSISTOR	15
DIODE	36


VR902-4
VR902-3
VR902-2
VR902-1
VR903
SUB
BRIGHT
L907
VR901
TP2
TP1
TP3
TP4
AN5620
LA7820
SW702
VR802
V.SIZE
TP5
TP6
AN5612
VR804
SUB.H.HOLD
VR803
H.HOLD
F.B.T.

VERTICAL SIZE ADJUSTMENT

Adjust the control (VR802) so that the picture fills the picture opening from top to bottom and is proportionate to the width.

FOCUS ADJUSTMENT

Adjust focus control, on the flyback transformer, for fine picture.

SUB BRIGHT ADJUSTMENT

1. Receive the signal of test pattern.
2. Set bright control to minimum position.
   Set contrast control to maximum position.
3. Adjust 75% white of gray scale to dimily appear with VR903.

SUB CONTRAST ADJUSTMENT

1. Receive the signal of test pattern.
2. Set bright control to maximum position.
3. Adjust gray scale to 25% with VR904.

SUB H-HOLD AND H-HOLD ADJUSTMENT

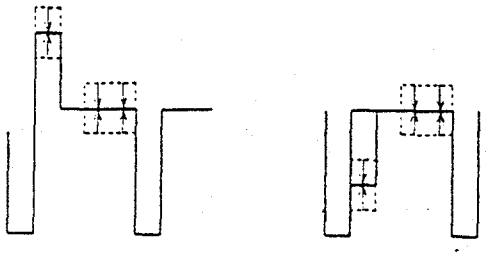
1. Receive the snowy station (free-run).
2. Connect frequency counter to TP7.
3. Rotate H-Hold control fully counter-clockwise.
4. Adjust VR804 to obtain 14300 Hz reading.
5. Receive the signal of test pattern.
6. Adjust H-Hold control (VR803) to obtain 15625 Hz reading.

APC ADJUSTMENT

1. Receive the signal of color bar.
2. Connect voltmeter between TP1 to TP2.
3. Set TC901 to center position.
4. Adjust TC902 to obtain a minimum voltage reading.

HUE DELAY ADJUSTMENT

1. Receive the signal of DEM pattern.
2. Connect dual oscilloscope to TP5 and TP6.
3. Adjust waveform to straight line with L907, VR901 and TC901.



COLOR PURITY ADJUSTMENT

The receiver must have been operating 10 minutes prior to this procedure and the face plate of the CRT must be at room temperature. The following procedure is recommended while using a Dot/Bar Generator.

1. Check for correct location of all neck components. (Refer to Figure 2.)
2. Rough-in the static convergence at the center of the CRT, as explained in the static convergence.
3. Rotate the contrast control to maximum CCW position and rotate brightness control as for CW as possible without causing the picture to "bloom".
4. Rotate the red bias and blue bias controls to maximum CCW position to produce a green raster.
5. Loosen the deflection yoke clamp screw and pull the deflection yoke toward the rear of the CRT.
6. Begin the following adjustment with the tabs on the round purity magnet rings set together, slowly separate the two tabs while at the same time rotating them to adjust for a uniform green stripe at the center of the CRT screen.
7. Carefully slide the deflection yoke forward to achieve green (uniform green screen).

NOTE: Center purity was obtained by adjusting the tabs on the round purity magnet rings, outer edge purity was obtained by sliding the deflection yoke forward.

8. Check for red and blue field purity by alternately increasing output of red and blue bias controls and touch up adjustments, if required.
9. Tighten deflection yoke clamp screw.

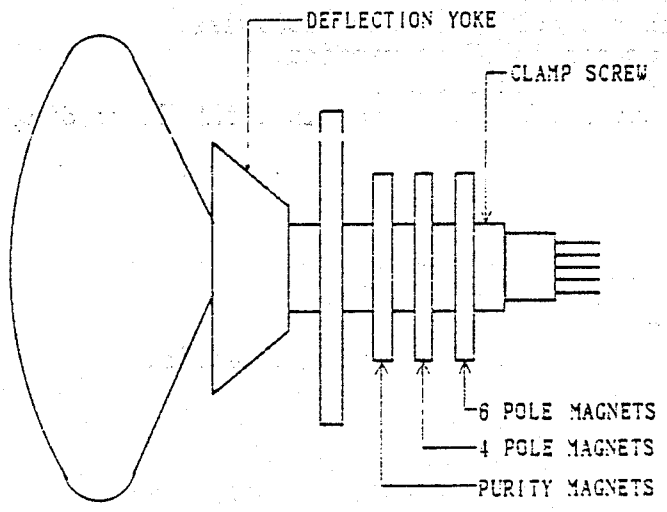


Figure 2. Picture Tube Neck Component Location

BLACK AND WHITE TRACKING

The purpose of this procedure is to adjust the biases applied to the picture tube to obtain good black and white picture production at all brightness levels while, at the same time achieving maximum useable brightness. Proper RF AGC control adjustment have been verified prior to performing this procedure.

1. Rotate the Red and Blue Drive control fulley CW and then back CCW center of their rotation ranges.
2. Rotate the Green, Red and Blue Bias controls to the full CCW end of their rotation ranges.
3. Set normal-servise switch to service position. Adjust the voltage of test point (collector of green output transistor on CRT PCB) to DC 120V with brightness control. Voltage measurement should be measured with oscilloscope.
4. Rotate the screen control to the full CCW end of its rotation range.Then, rotate it CW until a dim line of one pronounced color (green, red or blue) is obtained.
5. The other two color bias controls must be rotated CW until a dim white line is obtained.
6. Set normal-service switch to normal position.
7. If required, touch-up adjustment of the Red and Blue Drive controls to produce a uniform monochrome picture.
8. Rotate the brightness andcontrast controls fully CCW.
9. Rotate the brightness control CW until a dim raster is obtained.
10. If the screen does not display good while uniformity, step 2 through 10 this procdure must be repeated.

STATIC CONVERGENCE ADJUSTMENT

1. Switch the Receiver ON and allow it to warm up for 15 minutes.
2. Connect the output of a Crosshatch Generator to the receiver and, concentrating on the center of the CRT screen, proceed as follows:

a. Locate the pair of 4 pole magnet rings. Rotate individual rings (change spacing between tabs) to converge the vertical red and blus lines. Rotate the pair of rings (maintaining spacing between tabs) to converge the hrizontal red and blue lines.

b. After conpleting red and blue center convergence, locate the pair of 6 pole magnet rings. Rotate individual rings (change spacing between tabs) to converge the vertical red and blus (magenta) and green lines. Rotate the pair of rings (maintaining spacing between tabs) to converge the horizontal red and blue (magenta) and green lines.

DYNAMIC CONVERGENCE ADJUSTMENT

Dynamin convergence (convergence of the three color fields at the edges of the CRT screen) is accomplished by proper insertion and positioning of three rubber wedge between the edge of the deflection yoke and the tunnel of the CRT.This is accomplished in the following manner.

1. Switch the Receiver ON and allow it to warm up for 15 minutes.
2. Apply crosshatch pattern from Dot/Bar Generator to receiver. Observe spacing between lines aroud edges of CRT screen.
3. Tilt the deflection yoke up or down, and insert tilt adjustment wedges (1) and (2) between the defliction yoke and the CRT until the mis-convergence illustrated in Fugure 3 (A) has been corrected.
4. Tilt the deflection yoke right and left, and insert tilt adjustment wedge (3) between the deflection yoke and the CRT until the mis-convergence illustrated in Figure 3 (B) has been corrected.
5. Alterately change spacing between, and depth of insertion of the three wedges proper dynamic convergence is obtained.
6. Use a strong adhesive tape to firmly secure each of the three wedges to the funnel of the CRT.
7. Check purity and readjust, if necessary.

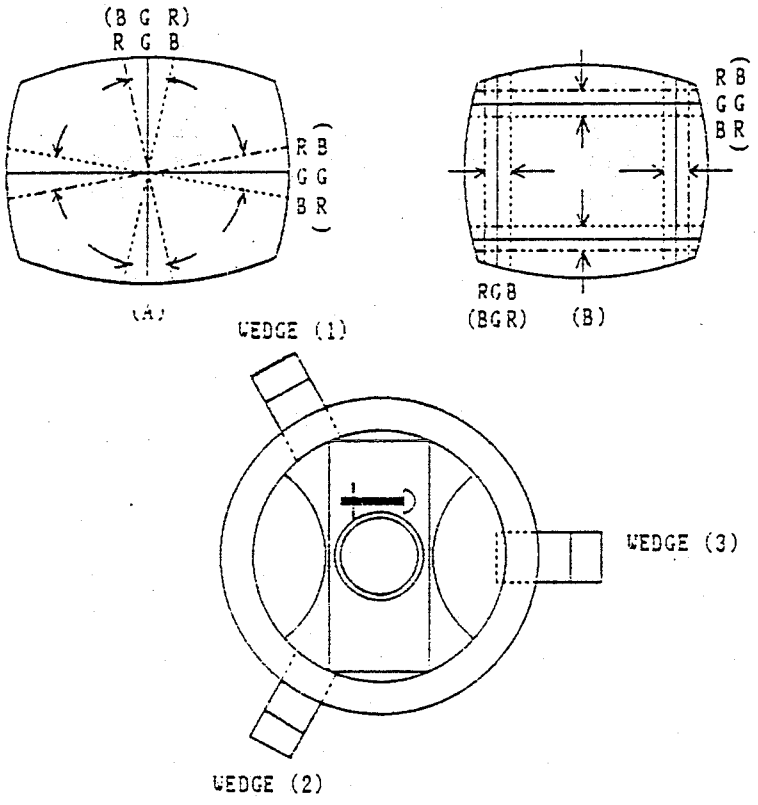
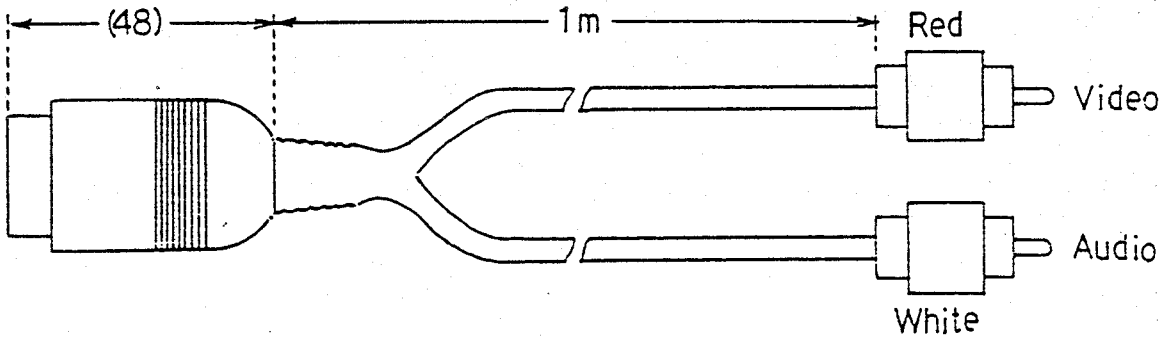
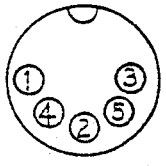


Figure 3 Dynamic Convergence Adjustment



DIN



contact side

1 : NC
2 : GND
3 : AUDIO
4 : VIDEO
5 : GND

COMMODORE G64 FOR ONLY

PARTS LIST FOR MODEL TYPE CCM-14 -CABINET- 1/1

REF. NO.	PART NO.	DESCRIPTION		Q'TY
101	701JPD0005	Cabinet, Front		1
	709KPA0004	Cabinet, Holder		2
	7230000682	Plate, Color		1
	7232020091	Plate, Brand		1
102	8931364000	Stopper, Cord		1
103	761JSA0182	Frame, Volume P.C.B.		1
104	735JPA0149	Button, Push		1
105	732JPA0036	Knob, Control		4
106	763JAA0047	Heat Sink, Power		1
107	763JAA0043	Heat Sink, OS		1
108	763JAA0027	Heat Sink, OS		1
109	761JSA0018	Angle, P.C.B. (Right)		1
	788JEE0001	Screw, IC		2
110	761JSA0181	Frame, Back		1
	755JBA0026	Cover, Jack		1
111	761JSA0019	Angle, P.C.B. (Left)		1
112	899PEC0340	Cord Clamp		1
113	702JPA0118	Cabinet, Back (1/4)		1
	7222020159	Plate, Rating		1
	7230000686	Sheet, Jack		1
	800JQ00005	Sheet	15x200	2
	800JQ00054	Sheet	15x35x0.5t	1
114	705KPA0002	Handle		1
	800JR00009	Sheet, C.R.T. Support		4
116	741JUA0002	Spring, C.R.T. Earth		1
	769JPA0004	Holder, Handle		2
117	769JSA0004	Washer, C.R.T.		4
118	761JSA0180	Frame, F.B.T.		1
119	800JF00016	Cushion	30x8x3.5t	2
120	736JPA0004	Button, Remote Set		1
201	8102230601	Screw, Bind	M3x6	4
202	8107630804	Screw, Tap Tite (S)	M3x8	2
203	8110630A04	Screw, Tap Tite (P)	M3x10	2
204	8110630A24	Screw, Tap Tite (P)	M3x12	3
205	8117540A61	Screw, Tapping B Truss	M4x16	4
206	8119150D05	Screw, Tapping B1	M5x40	4
207	82A50B2161	Plain Washer	M5x22	4
208	82B3059074	Spring Washer	3.1x5.9x0.7	2
209	8300230004	Nut	M3	2
210	8112330A21	Screw, Tapping B0	M3x12	2
-	791JHA0013	Poly Bag		1
-	791JHA0016	Sheet, Lightron		2
-	792JHA0063	Package, Top		1
-	792JHA0064	Package, Bottom		1
-	793JCD0713	Gift Box		1
-	899PEC0340	Cord Clamp No.PEC-0340-0 DIA 3		1
-	899P550000	Crimping, Sleeve		3
-	899SKB2500	Band, Cord Clamp		1
-	8995125000	Band, Cord Clamp		2
-	8995167000	Band, Cord Clamp		13

AMENDMENT OF PARTS LIST

Model CCM-14

SERVICE MANUAL

REF. NO.	DISCRIPTION		DISCRIPTION(new)	CODE NO.
R808	100K		820K	R031T2823J
R904	220K		330K	R031T4334J
R927	6.8K		1.5K	R031T6152J
R960	5.6K		1.8K	R031T6182J
C846	0.0022uF		0.0047uF	P122F0472K
C847		(ADD.)	0.0068uF 50V	P12100682J
C902	330pF		470pF	E021F2471M
C930	1uF 50V		0.1uF 50V	P121T0104K
C932	0.22uF 50V		0.1uF 50V	P121T0104K
C939	0.22uF 50V		0.1uF 50V	P121T0104K
C940	0.22uF 50V		0.1uF 50V	P121T0104K
C947		(ADD.)	220pF	C020SL4H2K

REF.NO.	CODE NO.		CODE NO.(new)
R837	R03104101J		R031T4101J
R847	R031T4562J		R03104562J
C926	C020SL4U2K		C02TSL4U2K
CP901	0694FJ0010		0694FK0010
PS001		(ADD.)	126P000001
PS002		(ADD.)	126P000001

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-ELECTRICAL-

PARTS LIST FOR MODEL TYPE CCM-14

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REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-RESISTORS-		
R701	RO31T6151J	RC RD16ST26-151J	150 OHM 1/6W	1
R702	RO31T6822J	RC RD16ST26-822J	8.2K OHM 1/6W	1
R703	RO31T6473J	RC RD16ST26-473J	47K OHM 1/6W	1
R704	RO31T6152J	RC RD16ST26-152J	1.5K OHM 1/6W	1
R705	RO31T6272J	RC RD16ST26-272J	2.7K OHM 1/6W	1
R706	RO31T6222J	RC RD16ST26-222J	2.2K OHM 1/6W	1
R707	RO31T6561J	RC RD16ST26-561J	560 OHM 1/6W	1
R708	RO31T6682J	RC RD16ST26-682J	6.8K OHM 1/6W	1
R709	RO31T6822J	RC RD16ST26-822J	8.2K OHM 1/6W	1
R710	RO31T6332J	RC RD16ST26-332J	3.3K OHM 1/6W	1
R711	RO31T6102J	RC RD16ST26-102J	1K OHM 1/6W	1
R712	RO31T6152J	RC RD16ST26-152J	1.5K OHM 1/6W	1
R713	RO31T6821J	RC RD16ST26-821J	820 OHM 1/6W	1
R714	RO31T6102J	RC RD16ST26-102J	1K OHM 1/6W	1
R715	RO31T4681J	RC RD25ST26-681J	680 OHM 1/4W	1
R716	RO31T4681J	RC RD25ST26-681J	680 OHM 1/4W	1
R717	RO31T4681J	RC RD25ST26-681J	680 OHM 1/4W	1
R718	RO31T4332J	RC RD25ST26-332J	3.3K OHM 1/4W	1
R719	RO31T4332J	RC RD25ST26-332J	3.3K OHM 1/4W	1
R720	RO31T4332J	RC RD25ST26-332J	3.3K OHM 1/4W	1
R721	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R722	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R723	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R724	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R725	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R726	RO31T6223J	RC RD16ST26-223J	22K OHM 1/6W	1
R727	RO31T6822J	RC RD16ST26-822J	8.2K OHM 1/6W	1
R728	RO31T4103J	RC RD25ST26-103J	10K OHM 1/4W	1
R729	RO31T4562J	RC RD25ST26-562J	5.6K OHM 1/4W	1
R730	RO11T4821J	RC ERD-25TJ821T	820 OHM 1/4W	1
R731	RO31T6821J	RC RD16ST26-821J	820 OHM 1/6W	1
R732	RO31T6103J	RC RD16ST26-103J	10K OHM 1/6W	1
R733	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R744	RO31T6151J	RC RD16ST26-151J	150 OHM 1/6W	1
R745	RO31T4472J	RC RD25ST26-472J	4.7K OHM 1/4W	1
R746	RO31T4472J	RC RD25ST26-472J	4.7K OHM 1/4W	1
R747	RO31T2331J	RC RD50ST26-331J	330 OHM 1/2W	1
R748	RO12T2331J	RC ERD-S1TJ331T	330 OHM 1/2W	1
R749	RO3104681J	RC RD25S-681J	680 OHM 1/4W	1
R750	RO31T6272J	RC RD16ST26-272J	2.7K OHM 1/6W	1
R751	RO31T6103J	RC RD16ST26-103J	10K OHM 1/6W	1
R752	RO31T4103J	RC RD25ST26-103J	10K OHM 1/4W	1
R402	RO31T4473J	RC RD25ST26-473J	47K OHM 1/4W	1
R403	RO31T6274J	RC RD16ST26-274J	270K OHM 1/6W	1
R404	RO31T4221J	RC RD25ST26-221J	220 OHM 1/4W	1
R410	RO31T6393J	RC RD16ST26-393J	39K OHM 1/6W	1
R801	R33101182J	R,METAL OXIDE RSF1B182	1.8K OHM 1 W	1
R802	RO31T4333J	RC RD25ST26-333J	33K OHM 1/4W	1
R803	RO12T2681J	RC ERD-S1TJ681T	680 OHM 1/2W	1

REF. NO.	PARTS. NO.	DESCRIPTION			Q'TY
R804	R61584330J	R,FUSE ERQ-14AJ330P	33	OHM 1/4W	1
R805	RO31T4822J	RC RD25ST26-822J	8.2K	OHM 1/4W	1
R806	RO31T4332J	RC RD25ST26-332J	3.3K	OHM 1/4W	1
R807	RO12T2821J	RC ERD-S1TJ821T	820	OHM 1/2W	1
R808	RO31T6104J	RC RD16ST26-104J	100K	OHM 1/6W	1
R809	RO31T4271J	RC RD25ST26-271J	270	OHM 1/4W	1
R810	RO31T6822J	RC RD16ST26-822J	8.2K	OHM 1/6W	1
R811	RO31T6822J	RC RD16ST26-822J	8.2K	OHM 1/6W	1
R812	RO31T6103J	RC RD16ST26-103J	10K	OHM 1/6W	1
R813	RO31T6394J	RC RD16ST26-394J	390K	OHM 1/6W	1
R814	RO31T6183J	RC RD16ST26-183J	18K	OHM 1/6W	1
R815	RO31T4104J	RC RD25ST26-104J	100K	OHM 1/4W	1
R816	RO31T4184J	RC RD25ST26-184J	180K	OHM 1/4W	1
R817	RO31T4393J	RC RD25ST26-393J	39K	OHM 1/4W	1
R818	RO31T4563J	RC RD25ST26-563J	56K	OHM 1/4W	1
R819	RO31T4563J	RC RD25ST26-563J	56K	OHM 1/4W	1
R820	RO31T4272J	RC RD25ST26-272J	2.7K	OHM 1/4W	1
R821	RO12T22R2J	RC ERD-S1TJ2R2T	2.2	OHM 1/2W	1
R822	RO31T6104J	RC RD16ST26-104J	100K	OHM 1/6W	1
R823	RO31T6473J	RC RD16ST26-473J	47K	OHM 1/6W	1
R824	RO31T6153J	RC RD16ST26-153J	15K	OHM 1/6W	1
R825	RO31T6562J	RC RD16ST26-562J	5.6K	OHM 1/6W	1
R826	RO31T4272J	RC RD25ST26-272J	2.7K	OHM 1/4W	1
R827	RO31T6103J	RC RD16ST26-103J	10K	OHM 1/6W	1
R828	RO31T6822J	RC RD16ST26-822J	8.2K	OHM 1/6W	1
R829	RO31T4223J	RC RD25ST26-223J	22K	OHM 1/4W	1
R830	RO1104222G	RC ERD-25TG222	2.2K	OHM 1/4W	1
R831	RO1104123G	RC ERD-25TG123	12 K	OHM 1/4W	1
R832	RO1104153G	RC ERD-25TG153	15 K	OHM 1/4W	1
R833	RO31T6472J	RC RD16ST26-472J	4.7K	OHM 1/6W	1
R834	RO31T4122J	RC RD25ST26-122J	1.2K	OHM 1/4W	1
R836	RO31T4102J	RC RD25ST26-102J	1K	OHM 1/4W	1
R837	RO3104101J	RC RD25S-101J	100	OHM 1/4W	1
R839	R512AE120J	R,CEMENT ERF- 7ZXJ120	12	OHM 7W	1
R840	R61582151J	R,FUSE ERQ-12AJ151P	150	OHM 1/2W	1
R841	R615812R2J	R,FUSE ERQ-1AJ2R2S	2.2	OHM 1W	1
R842	R615812R2J	R,FUSE ERQ-1AJ2R2S	2.2	OHM 1W	1
R843	R615812R2J	R,FUSE ERQ-1AJ2R2S	2.2	OHM 1W	1
R844	R615813R3J	R,FUSE ERQ-1AJ3R3S	3.3	OHM 1W	1
R845	RO3104474J	RC RD25S-474J	470K	OHM 1/4W	1
R846	RO12T2222J	RC ERD-S1TJ222T	2.2K	OHM 1/2W	1
R847	RO31T4562J	RC RD25ST26-562J	5.6K	OHM 1/4W	1
R848	R615826R8J	R,FUSE ERQ-12AJ6R8P	6.8	OHM 1/2W	1
R850	RO3106104J	RC RD16S-104J	100K	OHM 1/6W	1
R851	RO12T2102J	RC ERD-S1TJ102T	1K	OHM 1/2W	1
R855	RO31T4223J	RC RD25ST26-223J	22K	OHM 1/4W	1
R501	R512AD3R9K	R,CEMENT ERF- 5ZXK3R9	3.9	OHM 5 W	1
R502	RO12T2823J	RC ERD-S1TJ823T	82K	OHM 1/2W	1
R503	RO12T2104J	RC ERD-S1TJ104T	100K	OHM 1/2W	1
R504	RO12T2101J	RC ERD-S1TJ101T	100	OHM 1/2W	1
R505	RO12T2121J	RC ERD-S1TJ121T	120	OHM 1/2W	1
R506	R615812R2J	R,FUSE ERQ-1AJ2R2S	2.2	OHM 1W	1
R507	RO12T2101J	RC ERD-S1TJ101T	100	OHM 1/2W	1
R508	RO12T2101J	RC ERD-S1TJ101T	100	OHM 1/2W	1
R509	RO12T2101J	RC ERD-S1TJ101T	100	OHM 1/2W	1
R510	RO12T2101J	RC ERD-S1TJ101T	100	OHM 1/2W	1

-ELECTRICAL-

PARTS LIST FOR MODEL TYPE CCM-14

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REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-RESISTORS-		
R901	RO31T4103J	RC RD25ST26-103J	10K OHM 1/4W	1
R902	RO31T4182J	RC RD25ST26-182J	1.8K OHM 1/4W	1
R903	RO31T6391J	RC RD16ST26-391J	390 OHM 1/6W	1
R904	RO31T4224J	RC RD25ST26-224J	220K OHM 1/4W	1
R905	RO31T6681J	RC RD16ST26-681J	680 OHM 1/6W	1
R906	RO31T6224J	RC RD16ST26-224J	220K OHM 1/6W	1
R907	RO31T6223J	RC RD16ST26-223J	22K OHM 1/6W	1
R908	RO31T4272J	RC RD25ST26-272J	2.7K OHM 1/4W	1
R909	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R910	RO31T6471J	RC RD16ST26-471J	470 OHM 1/6W	1
R911	RO31T6331J	RC RD16ST26-331J	330 OHM 1/6W	1
R912	RO31T6392J	RC RD16ST26-392J	3.9K OHM 1/6W	1
R914	RO31T6681J	RC RD16ST26-681J	680 OHM 1/6W	1
R915	RO31T6182J	RC RD16ST26-182J	1.8K OHM 1/6W	1
R916	RO31T6393J	RC RD16ST26-393J	39K OHM 1/6W	1
R917	RO31T6683J	RC RD16ST26-683J	68K OHM 1/6W	1
R918	RO31T6181J	RC RD16ST26-181J	180 OHM 1/6W	1
R919	RO31T6471J	RC RD16ST26-471J	470 OHM 1/6W	1
R920	RO31T6391J	RC RD16ST26-391J	390 OHM 1/6W	1
R921	RO31T6152J	RC RD16ST26-152J	1.5K OHM 1/6W	1
R923	RO31T4272J	RC RD25ST26-272J	2.7K OHM 1/4W	1
R924	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R925	RO31T6822J	RC RD16ST26-822J	8.2K OHM 1/6W	1
R926	RO31T4103J	RC RD25ST26-103J	10K OHM 1/4W	1
R927	RO31T6682J	RC RD16ST26-682J	6.8K OHM 1/6W	1
R929	RO31T4271J	RC RD25ST26-271J	270 OHM 1/4W	1
R930	RO31T4271J	RC RD25ST26-271J	270 OHM 1/4W	1
R931	RO31T4271J	RC RD25ST26-271J	270 OHM 1/4W	1
R932	RO31T6103J	RC RD16ST26-103J	10K OHM 1/6W	1
R934	RO31T6472J	RC RD16ST26-472J	4.7K OHM 1/6W	1
R935	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R936	RO31T4271J	RC RD25ST26-271J	270 OHM 1/4W	1
R937	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R938	RO31T4271J	RC RD25ST26-271J	270 OHM 1/4W	1
R939	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R940	RO31T4271J	RC RD25ST26-271J	270 OHM 1/4W	1
R941	RO31T4562J	RC RD25ST26-562J	5.6K OHM 1/4W	1
R942	RO31T4472J	RC RD25ST26-472J	4.7K OHM 1/4W	1
R943	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R944	RO31T6103J	RC RD16ST26-103J	10K OHM 1/6W	1
R946	RO31T6183J	RC RD16ST26-183J	18K OHM 1/6W	1
R947	RO31T6102J	RC RD16ST26-102J	1K OHM 1/6W	1
R949	RO31T6183J	RC RD16ST26-183J	18K OHM 1/6W	1
R950	RO31T6102J	RC RD16ST26-102J	1K OHM 1/6W	1
R951	RO31T6392J	RC RD16ST26-392J	3.9K OHM 1/6W	1
R952	RO31T4472J	RC RD25ST26-472J	4.7K OHM 1/4W	1
R955	RO31T6331J	RC RD16ST26-331J	330 OHM 1/6W	1
R956	RO31046R8J	RC RD25S-6R8J	6.8 OHM 1/4W	1
R958	RO31T4102J	RC RD25ST26-102J	1K OHM 1/4W	1
R959	RO31T4272J	RC RD25ST26-272J	2.7K OHM 1/4W	1

REF. NO.	PARTS. NO.	DESCRIPTION		Q'TY
R960	RO31T6562J	RC RD16ST26-562J	5.6K OHM 1/6W	1
R961	RO3104010J	RC RD25S-010J	1 OHM 1/4W	1
R601	RO12T2105J	RC ERD-S1TJ105T	1M OHM 1/2W	1
R602	R33181153J	R,METAL OXIDE RSF1BL	15-15K 15K OHM 1W	1
R604	R33181153J	R,METAL OXIDE RSF1BL	15-15K 15K OHM 1W	1
R606	R33181153J	R,METAL OXIDE RSF1BL	15-15K 15K OHM 1W	1
R608	RO3106101J	RC RD16S-101J	100 OHM 1/6W	1
R610	RO31T4181J	RC RD25ST26-181J	180 OHM 1/4W	1
R611	RO3106272J	RC RD16S-272J	2.7K OHM 1/6W	1
R612	RO31T4271J	RC RD25ST26-271J	270 OHM 1/4W	1
R613	RO31T4272J	RC RD25ST26-272J	2.7K OHM 1/4W	1
R614	RO3106272J	RC RD16S-272J	2.7K OHM 1/6W	1
R615	RO31T4272J	RC RD25ST26-272J	2.7K OHM 1/4W	1
R616	RO31T4181J	RC RD25ST26-181J	180 OHM 1/4W	1
R617	RO3106272J	RC RD16S-272J	2.7K OHM 1/6W	1
R618	RO12T2272J	RC ERD-S1TJ272T	2.7K OHM 1/2W	1
R619	RO12T2272J	RC ERD-S1TJ272T	2.7K OHM 1/2W	1
R620	RO12T2272J	RC ERD-S1TJ272T	2.7K OHM 1/2W	1
		-CAPACITORS-		
C701	EO21T2470M	CE 16TWMS470MTA	47 UF 16V	1
C703	EO21T2470M	CE 16TWMS470MTA	47 UF 16V	1
C704	CO2TSL4K1K	CC RTHE40SJSL270K	27 PF SL	1
C705	CO2TSL4U1K	CC RTHE40SJSL680K	68 PF SL	1
C706	CO2TSL4U1K	CC RTHE40SJSL680K	68 PF SL	1
C707	CO2TSL4U1K	CC RTHE40SJSL680K	68 PF SL	1
C708	EO21T2101M	CE 16TWMS101MTA	100 UF 16V	1
C709	CO2TF04H4Z	CC RTHE90SJYF223Z	0.022 UF	1
C710	EO21T5010M	CE 50TWMS010MTA	1 UF 50V	1
C711	EO21T5100M	CE 50TWMS100MTA	10 UF 50V	1
C712	EO21T2101M	CE 16TWMS101MTA	100 UF 16V	1
C713	CO2TF04H4Z	CC RTHE90SJYF223Z	0.022 UF	1
C714	CO2TF04Q4Z	CC RTHE12SJYF473Z	0.047 UF	1
C715	CO20F04Q4Z	CC HE12SJYF473Z	0.047 UF F	1
C716	CO2TSL4L1K	CC RTHE40SJSL330K	33 PF SL	1
C401	EO21T5100M	CE 50TWMS100MTA	10 UF 50V	1
C402	P121T0103K	CP 50F2S103K	0.01 UF 50V	1
C403	EO21T3101M	CE 25TWMS101MTA	100 UF 25V	1
C404	CO2TB0413K	CC RTHE50SJYB102K	0.001 UF B	1
C405	EO1203102M	CE ECEA1ESS102	1000 UF 25V	1
C406	EO21T3101M	CE 25TWMS101MTA	100 UF 25V	1
C407	EO21T5R22M	CE 50TWMSR22MTA	0.22 UF 50V	1
C408	EO21T2470M	CE 16TWMS470MTA	47 UF 16V	1
C409	EO21T5100M	CE 50TWMS100MTA	10 UF 50V	1
C801	P121T0683K	CP 50F2S683K	0.068 UF 50V	1
C802	CO20B05L2K	CC HM60SJYB331K	330 PF500V B	1
C803	P121T1683K	CP 100F2S683K	0.068 UF100V	1
C804	CO2TSL413K	CC RTHE12SJSL102K	0.001 UF SL	1
C805	EO2103102M	CE 25TWMS102M	1000 UF 25V	1
C806	P121T0152K	CP 50F2S152K	0.0015UF 50V	1
C807	CO2TSL4W2K	CC RTHE12SJSL821K	820 PF SL	1
C808	P121T0183K	CP 50F2S183K	0.018 UF 50V	1
C809	P121T0683K	CP 50F2S683K	0.068 UF 50V	1
C810	P61300104J	CMPL ECQV05104JB	0.1 UF 50V	1
C811	E251T22R2K	CTANTAL DN1C2R2KIS	2.2 UF 16V	1
C812	EO27T2221M	CE 16TWSS221MTA	220 UF 16V	1

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PARTS LIST FOR MODEL TYPE CCM-14

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REF.NO	PARTS.NO	DESCRIPTION					Q'TY
		-CAPACITORS-					
C813	P121T0103K	CP 50F2S103K	0.01	UF	50V		1
C814	P121T0104K	CP 50F2S104K	0.1	UF	50V		1
C815	C02FSL512J	CC HM60SJSL101J	100	PF	500V	SL	1
C816	P121T0473K	CP 50F2S473K	0.047	UF	50V		1
C817	P121T0103K	CP 50F2S103K	0.01	UF	50V		1
C818	P541F0562J	CPL DSR-562J-50V	0.0056	UF	50V		1
C819	E021T52R2M	CE 50TWMS2R2MTA	2.2	UF	50V		1
C820	E021T2220M	CE 16TWMS220MTA	22	UF	16V		1
C821	E021T2470M	CE 16TWMS470MTA	47	UF	16V		1
C822	E021T4220M	CE 35TWMS220MTA	22	UF	35V		1
C823	C02TB04W2K	CC RTHE40SJYB821K	820	PF		B	1
C824	E2520201OM	CTANTAL DA1C010M	1	UF	16V		1
C825	E2520201OM	CTANTAL DA1C010M	1	UF	16V		1
C826	C02FSL5H1K	CC HM60SJSL220K	22	PF	500V	SL	1
C827	P121T1123J	CP 100F2S123J	0.012	UF	100V		1
C828	E025TB010M	CE 160TWS010M	1	UF	160V		1
C829	P441F2564J	CMPP DHS-564J-200V	0.56	UF	200V		1
C830	C020B05H3K	CC HM86SJYB222K	0.0022	UF	500V	B	1
C831	P442F9103J	CMPP DKR-103J-1600V	0.01	UF	1600V		1
C832	P441F2564J	CMPP DHS-564J-200V	0.56	UF	200V		1
C833	E025TB010M	CE 160TWS010M	1	UF	160V		1
C834	E027042222M	CE 35TWSS222M	2200	UF	35V		1
C835	E021031102M	CE 25TWMS102M	1000	UF	25V		1
C836	E025OD100M	CE 250TWS100M	10	UF	250V		1
C837	E02ET2100M	CE 16NW100M	10	UF	16V		1
C838	P341F2153J	CPP DTW-153J-200V	0.015	UF	200V		1
C839	C020B05K2K	CC HM60SJYB271K	270	PF	500V	B	1
C840	E021T52R2M	CE 50TWMS2R2MTA	2.2	UF	50V		1
C841	E027F4101M	CE 35TWSS101MKC	100	UF	35V		1
C842	P121T0333K	CP 50F2S333K	0.033	UF	50V		1
C843	C02TF04H4Z	CC RTHE90SJYF223Z	0.022	UF			1
C844	E027F3471M	CE 25TWSS471MKC	470	UF	25V		1
C846	C020F04H4Z	CC HE90SJYF223Z	0.022	UF		F	1
C501	C02FB07H3K	CC HS15SJYB222K	0.0022	UF	2KV	B	1
C502	C02FB07H3K	CC HS15SJYB222K	0.0022	UF	2KV	B	1
C503	C02FB07H3K	CC HS15SJYB222K	0.0022	UF	2KV	B	1
C504	C02FB07H3K	CC HS15SJYB222K	0.0022	UF	2KV	B	1
C505	E01C0H101M	CE ECES2GV101Z	100	UF	400V		1
C506	E025FB101M	CE 160TWS101M	100	UF	160V		1
C507	P44209332J	CMPP DKR-332J-1600V	0.0033	UF	1600V		1
C508	E021T3101M	CE 25TWMS101MTA	100	UF	25V		1
C509	E021T54R7M	CE 50TWMS4R7MTA	4.7	UF	50V		1
C510	P4440B474M	CMPP DHP-474M-250V	0.47	UF	250V		1
C511	C010B09Q3M	CC ECK-DGS472MD4	4700	PF	4KV		1
C901	C02TF0414Z	CC RTHE70SJYF103Z	0.01	UF		F	1
C902	E021F2331M	CE 16TWMS331MCK	330	UF	16V		1
C903	CF4TRH4H1J	CC UP125RH220JA	22	PF	50V		1
C904	C02FRH4Q1J	CC HE50SJRH470J	47	PF			1
C905	CF4TX0314M	CC TP125X103MA	0.01	UF	25V		1
C906	C02TSL4N1K	CC RTHE40SJSL390K	39	PF		SL	1

REF. NO.	PARTS. NO.	DESCRIPTION					Q'TY
C907	C02TSL4N1K	CC RTHE40SJSL390K	39	PF		SL	1
C908	CF4TSL4W1J	CC UP125SL820JA	82	PF	50V		1
C909	C02TF0414Z	CC RTHE70SJYF103Z	0.01	UF		F	1
C910	E02E05010M	CE 50NW010M	1	UF	50V		1
C911	E021T53R3M	CE 50TWMS3R3MTA	3.3	UF	50V		1
C912	P121T0153K	CP 50F2S153K	0.015	UF	50V		1
C913	P121T0153K	CP 50F2S153K	0.015	UF	50V		1
C914	P121T0103K	CP 50F2S103K	0.01	UF	50V		1
C915	C02TF0414Z	CC RTHE70SJYF103Z	0.01	UF		F	1
C916	E021F2471M	CE 16TWMS471MCK	470	UF	16V		1
C917	C02TF04H4Z	CC RTHE90SJYF223Z	0.022	UF			1
C918	C02TF04H4Z	CC RTHE90SJYF223Z	0.022	UF			1
C919	E02ET34R7M	CE 25NW4R7M	4.7	UF	25V		1
C920	C02TSL4N1K	CC RTHE40SJSL390K	39	PF		SL	1
C921	E021T5010M	CE 50TWMS010MTA	1	UF	50V		1
C922	E021T5010M	CE 50TWMS010MTA	1	UF	50V		1
C923	E02ET34R7M	CE 25NW4R7M	4.7	UF	25V		1
C924	E021T5010M	CE 50TWMS010MTA	1	UF	50V		1
C925	E021T5100M	CE 50TWMS100MTA	10	UF	50V		1
C926	C020SL4U2K	CC HE11SJSL681K	680	PF		SL	1
C927	C02TSL4Q1K	CC RTHE40SJSL470K	47	PF		SL	1
C928	E021T5100M	CE 50TWMS100MTA	10	UF	50V		1
C929	C020SL4U1K	CC HE40SJSL680K	68	PF		SL	1
C930	E021T5010M	CE 50TWMS010MTA	1	UF	50V		1
C931	E021T5010M	CE 50TWMS010MTA	1	UF	50V		1
C932	E021T5R22M	CE 50TWMSR22MTA	0.22	UF	50V		1
C933	E021T50R1M	CE 50TWMS0R1MTA	0.1	UF	50V		1
C934	E021T50R1M	CE 50TWMS0R1MTA	0.1	UF	50V		1
C935	E021T50R1M	CE 50TWMS0R1MTA	0.1	UF	50V		1
C936	E021T2330M	CE 16TWMS330MTA	33	UF	16V		1
C937	E021T5100M	CE 50TWMS100MTA	10	UF	50V		1
C938	E021T5R22M	CE 50TWMSR22MTA	0.22	UF	50V		1
C939	E021T5R22M	CE 50TWMSR22MTA	0.22	UF	50V		1
C940	E021T5R22M	CE 50TWMSR22MTA	0.22	UF	50V		1
C941	E021T2101M	CE 16TWMS101MTA	100	UF	16V		1
C942	C02TF04H4Z	CC RTHE90SJYF223Z	0.022	UF			1
C943	E021T5R47M	CE 50TWMSR47MTA	0.47	UF	50V		1
C944	E021T53R3M	CE 50TWMS3R3MTA	3.3	UF	50V		1
C945	C02TSL4N1K	CC RTHE40SJSL390K	39	PF		SL	1
C946	E021T5100M	CE 50TWMS100MTA	10	UF	50V		1
C601	C020SL4W2K	CC HE12SJSL821K	820	PF		SL	1
C602	C020SL4L2K	CC HE80SJSL331K	330	PF		SL	1
C603	C020SL4W2K	CC HE12SJSL821K	820	PF		SL	1
C604	C020B0713K	CC HS11SJYB102K	0.001	UF	2KV	B	1
		-SEMICONDUCTORS-					
IC701	I6CD0LS040	INTEGRATED CIRCUIT	SN74LS04				1
IC702	I6CD0LS080	INTEGRATED CIRCUIT	SN74LS08				1
IC401	I02DP05752	INTEGRATED,CIRCUIT	UPC575C2				1
IC801	I03D078200	INTEGRATED CIRCUIT	LA7820				1
IC802	I03SD78300	INTEGRATED CIRUIT	LA7830				1
IC501	I2B3904510	INTEGRATED CIRCUIT	STR-451				1
IC901	I01D5620X0	INTEGRATED,CIRCUIT	AN5620X				1
IC902	I01DE56120	INTEGRATED CIRCUIT	AN5612				1
IC903	I02DF13970	INTERATED,CIRCUIT	UPC1397C				1

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PARTS LIST FOR MODEL TYPE CCM-14

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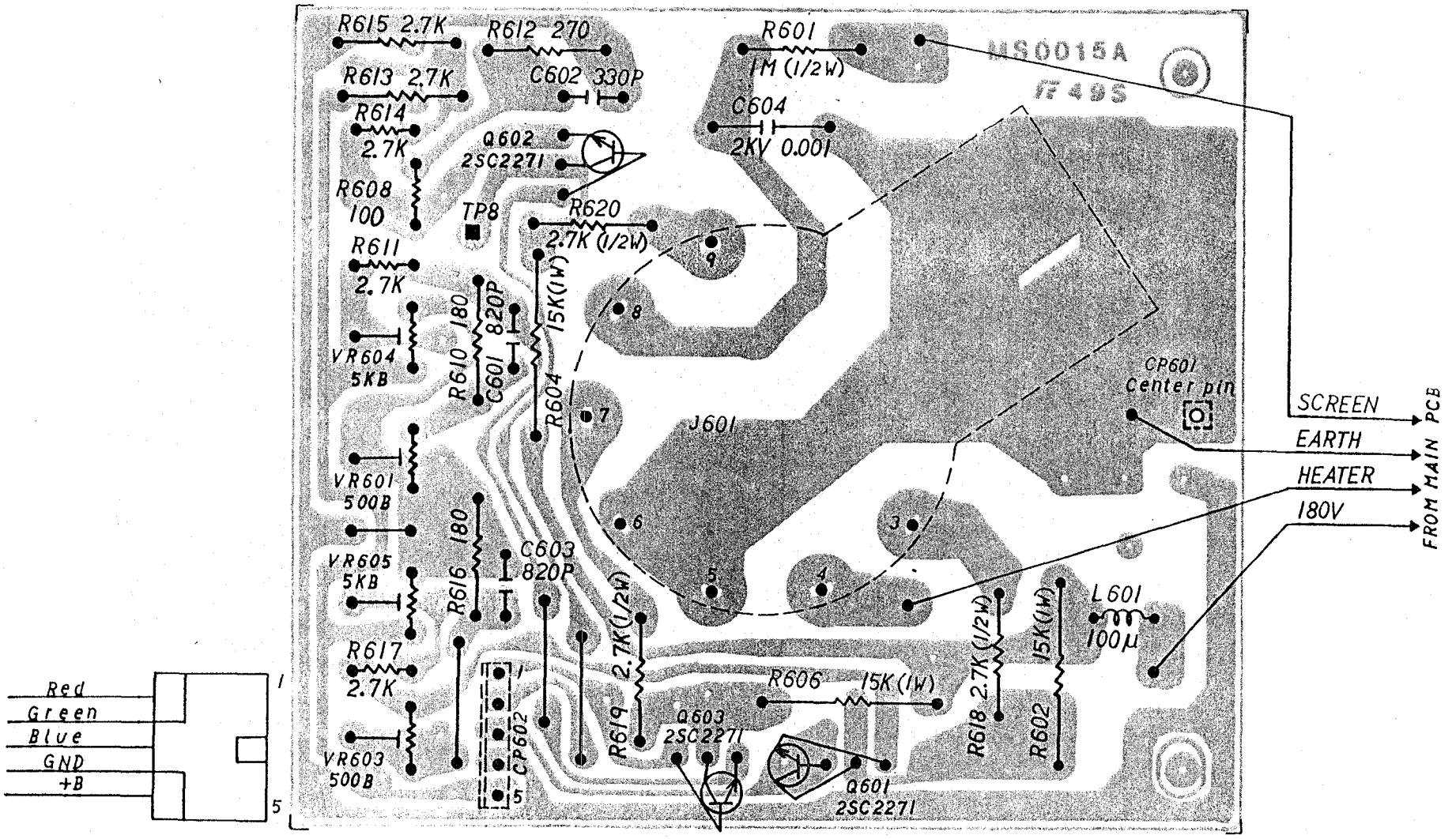
REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-SEMICONDUCTORS-		
Q701	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q702	TA3T0608KO	TRANSISTOR SILICON	2SA608KNP-T	1
Q703	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q704	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q705	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q706	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q707	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q708	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q801	TC101573NO	TRANSISTOR,SILICON	2SC1573NC	1
Q802	TD50014260	TRANSISITOR	2SD1426	1
Q901	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q902	TC3T0536KF	TRANSISTOR,SILICON	2SC536KNPFT	1
Q601	TC101573AO	TRANSISTOR SILICON	2SC1573AO	1
Q602	TC101573AO	TRANSISTOR SILICON	2SC1573AO	1
Q603	TC101573AO	TRANSISTOR SILICON	2SC1573AO	1
D701	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D702	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D703	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D704	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D705	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D706	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D707	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D708	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D709	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D710	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D711	D93T05R10Y	DIODE ZENER	GZA5.1 Y BT	1
D712	D13TDS442X	DIODE,SILICON	DS442X-BT	1
D801	D23TDFD05G	DIODE,RECTIFIER	DFD05G	1
D802	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D804	D9200110B2	DIODE ZENER	RD11EB 2	1
D805	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D806	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D807	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D808	D23TDFD05G	DIODE,RECTIFIER	DFD05G	1
D809	D23TDFD05G	DIODE,RECTIFIER	DFD05G	1
D810	D23TDFD05G	DIODE,RECTIFIER	DFD05G	1
D811	D28T010D20	DIODE RECTIFIER	10D-2 T	1
D812	D93001200Y	DIODE ZENER	GZA12 Y	1
D813	D28000BB40	DIODE,RECTIFIER	BB-4	1
D814	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D501	D280GP15MO	DIODE,RECTIFIER	GP-15M	1
D502	D280GP15MO	DIODE,RECTIFIER	GP-15M	1
D503	D280GP15MO	DIODE,RECTIFIER	GP-15M	1
D504	D280GP15MO	DIODE,RECTIFIER	GP-15M	1
D505	D2BF00RH10	DIODE,RECTIFIER	RH-1	1
D506	D2BF00RU20	DIODE SILICON	RU-2	1
D507	D2BF00RH10	DIODE,RECTIFIER	RH-1	1
D508	D23TDFD05G	DIODE,RECTIFIER	DFD05G	1
D509	D2M000SR2S	DIODE AVARANSHU	SR-2S	1
D901	D93006R80Y	DIODE ZENER	GZA6.8 Y	1
D902	D13TDS442X	DIODE,SILICON	DS442X-BT	1

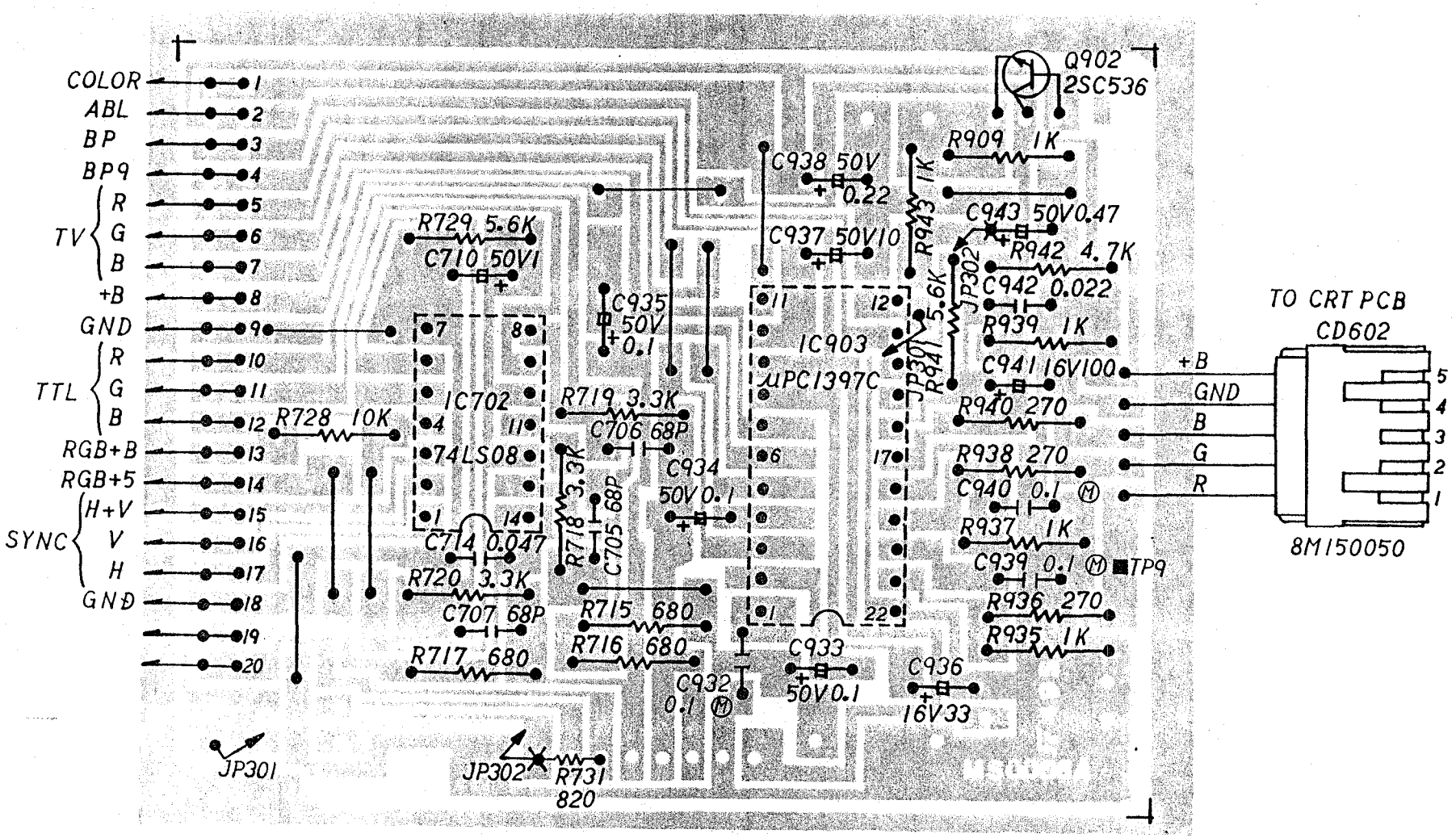
REF. NO.	PARTS. NO.	DESCRIPTION			Q'TY
		- COILS & TRANSFORMERS-			
L701	021673330K	COIL EL0606RA-330K	33 UH		1
L801	021804472K	COIL RX-9P-472K	4.7 MH		1
L802	0221000007	COIL,LINEARITY	21000007		1
L501	0298000002	COIL LINE FILTER	98000002		1
L502	0280140007	COIL DEGAUS	8D140007		1
L901	10312R5001	DELAY	ELT-10Z456		1
L902	021673470K	COIL EL0606RA-470K	47 UH		1
L903	0216734R7K	COIL EL0606RA-4R7K	4.7 UH		1
L904	021606221K	COIL FS0810-221K	220 UH		1
L905	021606221K	COIL FS0810-221K	220 UH		1
L906	0216735R6K	COIL EL0606RA-5R6K	5.6 UH		1
L907	03353A0018	COIL,MATCHING	353A001	16034SU	1
L908	021673390K	COIL EL0606RA-390K	39 UH		1
L909	021673680K	COIL EL0606RA-680K	68 UH		1
L601	021663101K	COIL EL0606SKI-101K	100 UH		1
T801	0450280014	TRANS,HORIZONTAL DRIYE		50280014	1
T501	0481330045	TRANSFORMER,SWITCHING		81330045	1
		-JACK & CONNECTORS-			
J601	0662120001	SOCKET,CATHORD,RAY,TUBE	HPS-0139-01-170		1
J701	0602421001	JACK,RCA PIN	JPJ0556-010-020		1
J702	0602421002	JACK,RCA PIN	JPJ0556-010-030		1
J703	0622760001	JACK,DIN	TCS4460-01-1011		1
		-SWITCHES-			
SW501	0530103001	SWITCH PUSH	ESB-90197S		1
SW701	0500101008	SWITCH,PUSH	ESB-62531		1
SW702	0510422001	SWITCH,SLIDE	SS-009-7H		1
SW703	0510422003	SWITCH,SLIDE	SS121-B		1
		-SEMI-FIXED RESISTORS-			
VR801	V023025B02	VOLUME,ROTALY			1
VR802	V115352B02	VOLUME,SEMI FIXED	EVN-52JA00B52		1
VR803	V114053B01	VOLUME,SEMI FIXED	EVL-V0AA00B53		1
VR804	V115323B02	VOLUME,SEMI FIXED	EVN-52JA00B23		1
VR901	V115323B02	VOLUME,SEMI FIXED	EVN-52JA00B23		1
VR902	V019400002	VOLUME,ROTALY	EVJ2XAF25122		1
VR903	V114214B04	VOLUME,SEMI FIXED	EVL-S0AA00B14		1
VR904	V115354B02	VOLUME,SEMI FIXED	EVN-52JA00B54		1
VR601	V145052B01	VOLUME,SEMI FIXED	TM8K H1-1SB500		1
VR603	V145052B01	VOLUME,SEMI FIXED	TM8K H1-1SB500		1
VR604	V145053B01	VOLUME,SEMI FIXED	TM8K H1-1SB5K		1
VR605	V145053B01	VOLUME,SEMI FIXED	TM8K H1-1SB5K		1
		-P.C. BOARDS-			
PCB001	13MM0003A3	PCB	MM0003A		1
PCB002	13MS0015A3	PCB	MS0015A		1
PCB003	13MS0006A3	PCB	MS0006A		1
PCB004	13MS0007A3	PCB	MS0007A		1
PCB005	13TE0156A3	PCB	TE0156A		1
		-MISCELLANEOUS-			
SP401	0701031002	SPEAKER	EAS-8P75SX		1
DY801	0271051406	DY	KY10024S		1

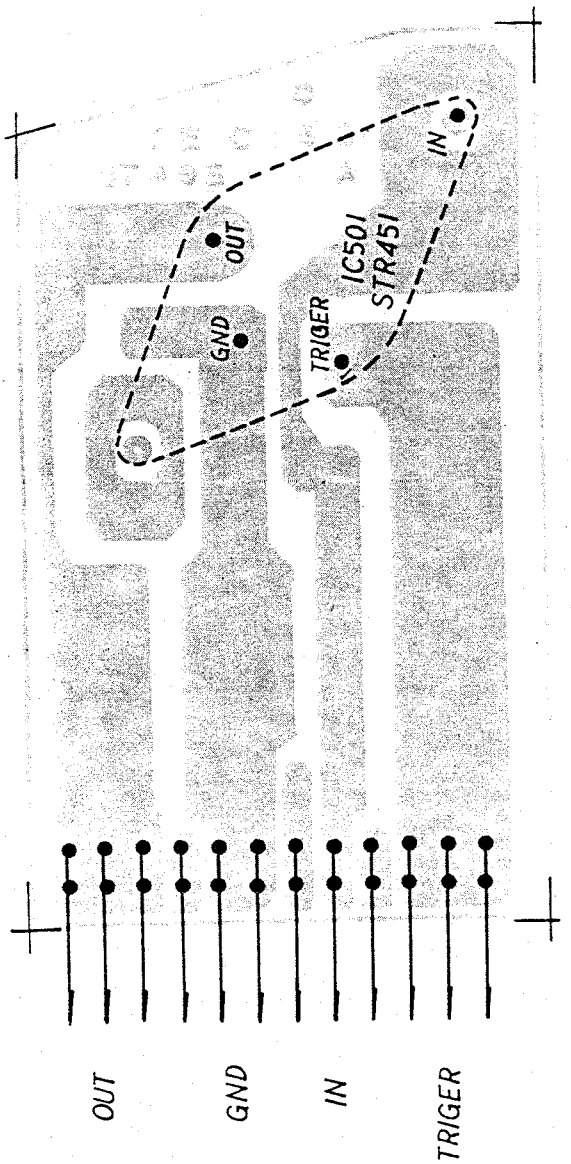
-ELECTRICAL-

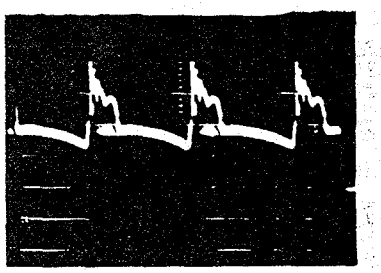
PARTS LIST FOR MODEL TYPE CCM-14

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-MISCELLANEOUS-		
FB801	0437140051	TRANSFORMER,FLYBACK	37140051	1
V801	092F140404	TUBE,CATHODE RAY	3702B22	1
FH501	067H000001	HOLDER,FUSE	7800-6268	1
FH502	067H000001	HOLDER,FUSE	7800-6268	1
F501	0802T2R501	FUSE	FST 2.5 A (T) 250V	1
TH501	D810M180H0	DEGAUSS ELEMENT	ERP-F5B0M180H	1
DL901	104114R431	DELAY LINE GLASS	EFD-EN645A01A	1
PF901	1144144601	FILTER,BAND PASS	LC-973A2	1
TC901	0100514001	C,CERAMIC TRIMMER	TZ03R300E	1
TC902	0100514001	C,CERAMIC TRIMMER	TZ03R300E	1
X901	10064R4301	CRYSTAL	DS-M 4.433619MHZ	1
JC601	0662120003	SOCKET,COVER,CRT	HPS0110-05-010	1
CD701	0682M0A001	CORD EIS CONNECTOR	82M0A001	1
CD401	068312086A	CORD EIS CONNECTOR	8312086A	1
CD402	1228052701	CORD JUMPER	28052701	1
CD501	120L450001	CORD AC E2N	7FEET HANAI	1
CD503	068332015A	CORD CONNECTOR	8332015A	1
CD601	068301002A	CORD CONNECTOR	8301002A G-633	1
CD602	068M150050	CORD EIS CONNECTOR	8M150050	1
CP401	0694120019	CONNECTOR PCB SIDE	171825-2	1
CP502	0693320029	CONNECTOR PCB SIDE	TV-50P-02-V1	1
CP503	0693320018	CONNECTOR PCB SIDE	RTB-2.36-2TV	1
CP504	0694FC0010	F-CHIP	1-163740-1	1
CP601	0693010010	CONNECTOR,PIN CENTER	RT-01N-2.3A	1
CP602	0694150019	CONNECTOR PCB SIDE	171825-5	1
CP802	0693340029	CONNECTOR PCB SIDE	RTB-2.36-5TV-A	1
CP901	0694FJ0010	F-CHIP	1-163740-8	1
K001	129T000004	WEDGE	TRI-26	1
K002	129T000004	WEDGE	TRI-26	1
K003	129T000004	WEDGE	TRI-26	1
S001	128F100002	SPACER	BUSH-H	1
S002	128F100002	SPACER	BUSH-H	1
TP1	126V000003	TERMINAL PIN	ITS-2035	1
TP10	126V000002	TERMINAL PIN	ITS-2034	1
TP2	126V000003	TERMINAL PIN	ITS-2035	1
TP3	126V000003	TERMINAL PIN	ITS-2035	1
TP4	126V000003	TERMINAL PIN	ITS-2035	1
TP5	126V000003	TERMINAL PIN	ITS-2035	1
TP6	126V000003	TERMINAL PIN	ITS-2035	1
TP7	126V000003	TERMINAL PIN	ITS-2035	1
TP8	126V000002	TERMINAL PIN	ITS-2034	1
TP9	126V000002	TERMINAL PIN	ITS-2034	1

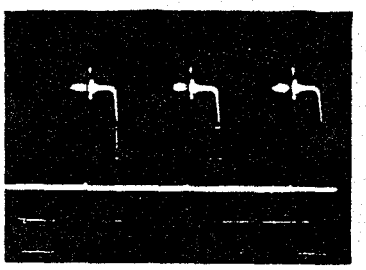

R615 2.7K
R612 270
R601
1M (1/2W)
MS0015A
R613 2.7K
C602 330P
C604
2KV 0.001
R614
2.7K
Q602
2SC2271
R608
100
TP8
R620
2.7K (1/2W)
R611
2.7K
VR604
5KB
R610 180
C601 820P
15K(1W)
R604
CP601
Center pin
J601
VR601
500B
VR605
5KB
R616 180
C603
820P
2.7K(1/2W)
R619
R606 15K(1W)
Q603
2SC2271
R618 2.7K(1/2W)
15K(1W)
R602
L601
100μ
R617
2.7K
VR603
500B
CP602
Q601
2SC2271
SCREEN
EARTH
HEATER
180V
FROM MAIN PCB
Red
Green
Blue
GND
+B
1
5


COLOR
ABL
BP
BP9
TV R
TV G
TV B
+B
GND
TTL R
TTL G
TTL B
RGB+B
RGB+5
SYNC H+V
SYNC V
SYNC H
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
R729 5.6K
C710 50V1
C935 50V 0.1
IC702
74LS08
R728 10K
C714 0.047
R720 3.3K
C707 68P
R717 680
R719 3.3K
C706 68P
R718 3.3K
C705 68P
C934 50V0.1
R715 680
R716 680
C932 0.1 Ⓜ
JP301
JP302
R731 820
C938 50V 0.22
C937 50V10
IC903 μPC1397C
R943 1K
R941 5.6K
JP301
JP302
Q902 2SC536
R909 1K
C943 50V0.47
R942 4.7K
C942 0.022
R939 1K
C941 16V100
R940 270
R938 270
C940 0.1 Ⓜ
R937 1K
C939 0.1 Ⓜ
TP9
R936 270
R935 1K
C933 50V0.1
C936 16V33
TO CRT PCB
CD602
+B
GND
B
G
R
5
4
3
2
1
8M150050

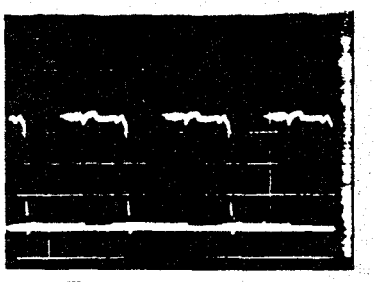

IN
OUT
IC501
STR451
TRIGER
GND
OUT
GND
IN
TRIGER



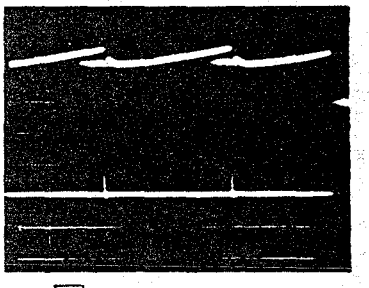
1 1.4V P-P (H)



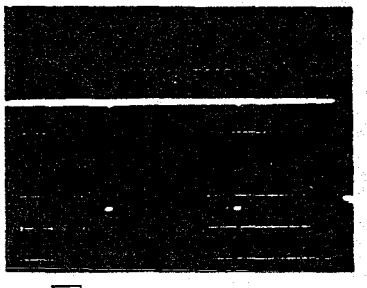
2 400V P-P (H)



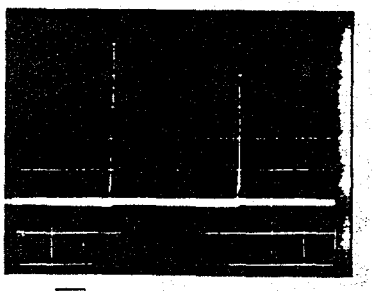
3 460mV P-P (H)



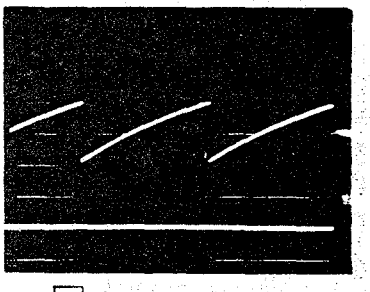
4 960mV P-P (V)



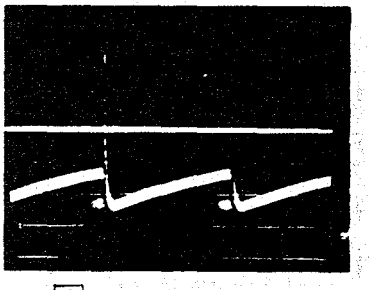
5 3.4V P-P (V)



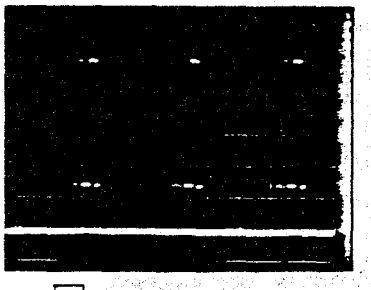
6 5.4V P-P (V)



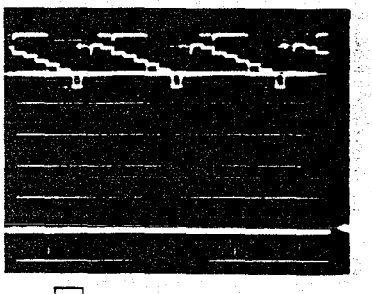
7 4V P-P (V)



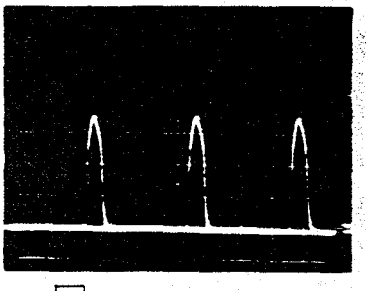
8 2.4V P-P (V)



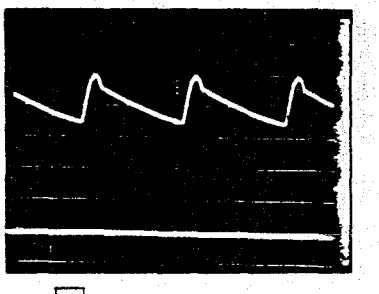
9 8V P-P (H)



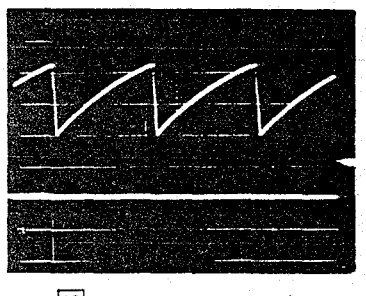
10 2.8V P-P (H)



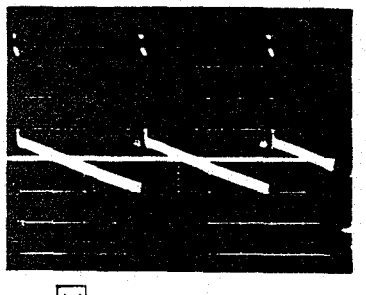
11 15.3V P-P (H)



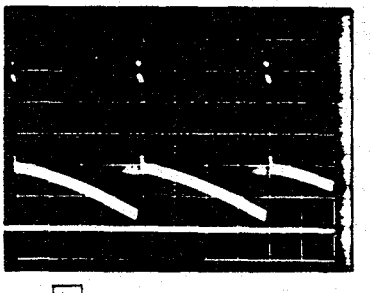
12 1.6V P-P (H)



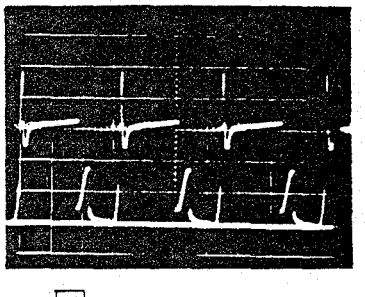
13 4.4V P-P (H)



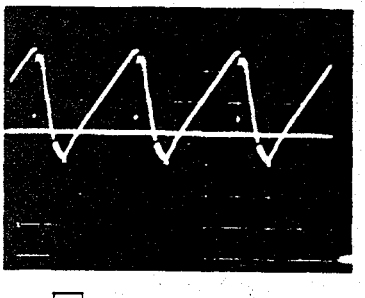
14 20V P-P (V)



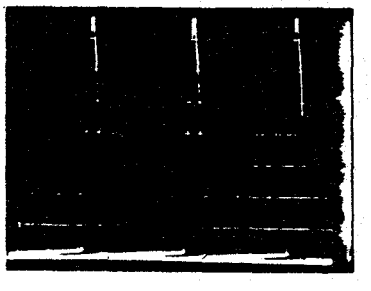
15 20V P-P (V)



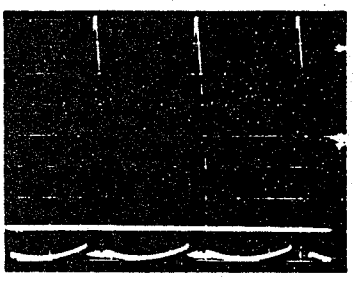
16 52V P-P (H)



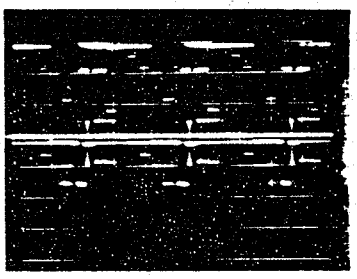
17 5.3V P-P (H)



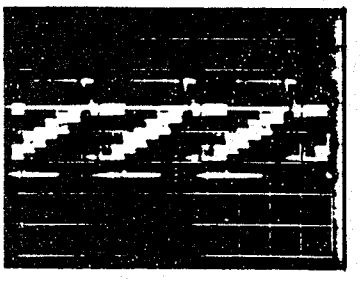
18 760V P-P (H)



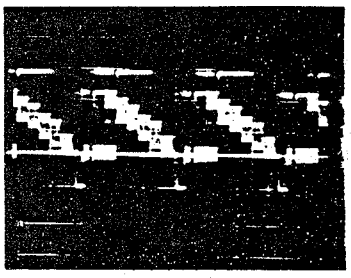
19 780V P-P (H)



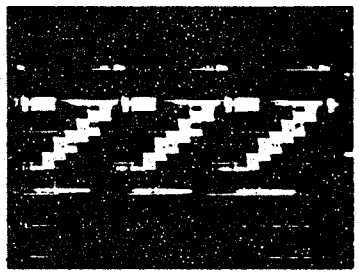
20 480V P-P (H)



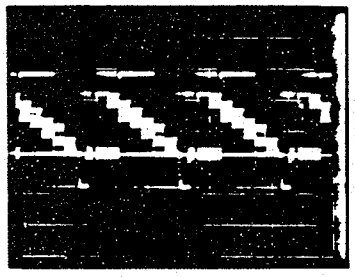
21 1.5V P-P (H)



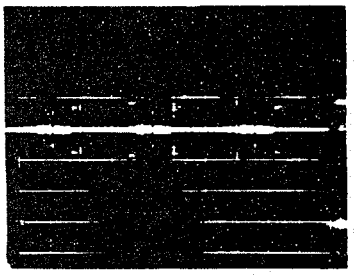
22 3.2V P-P (H)



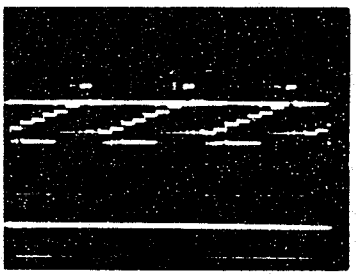
23 2.1V P-P (H)



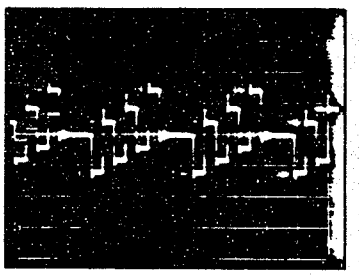
24 3.6V P-P (H)



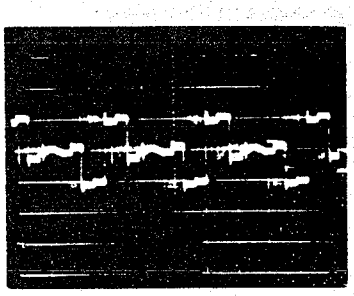
25 130mV P-P (H)



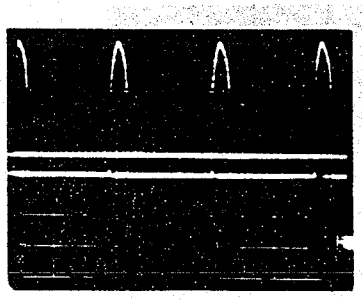
26 1V P-P (H)



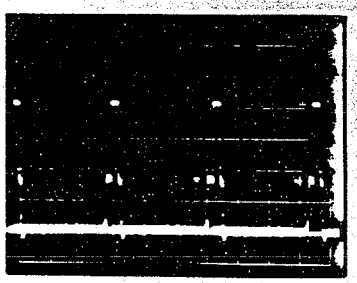
27 1.5V P-P (H)



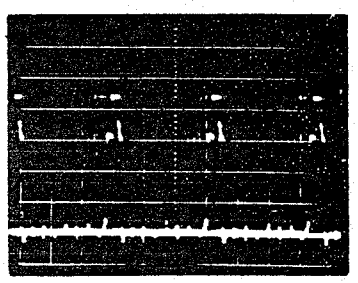
28 1.4V P-P (H)



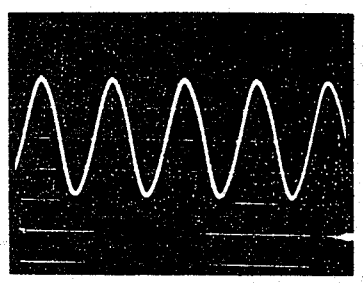
29 4.4V P-P (H)



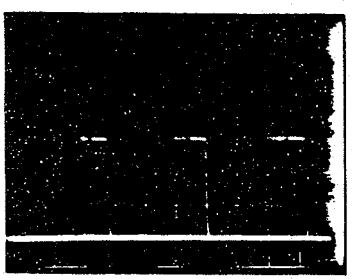
30 840mV P-P (H)



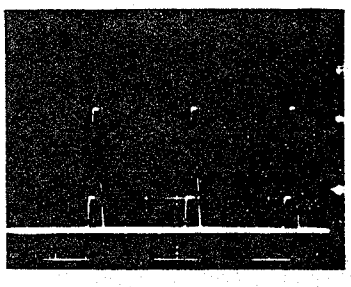
31 920mV P-P (H)



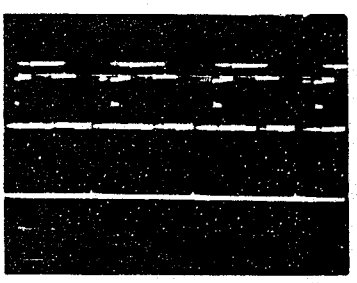
32 6.4V P-P (0.1ms)



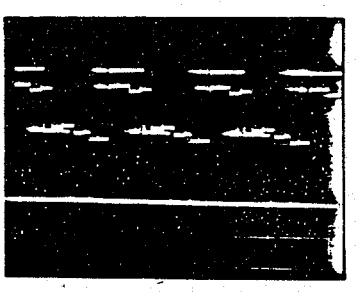
33 800mV P-P (H)



34 5V P-P (H)

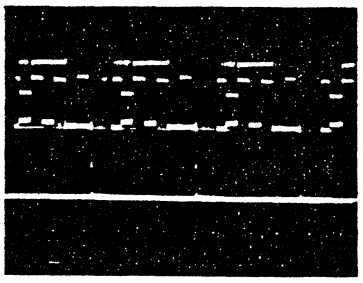


35 5V P-P (H)

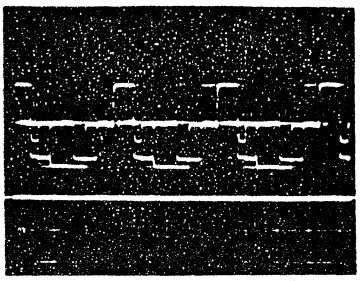


36 5V P-P (H)

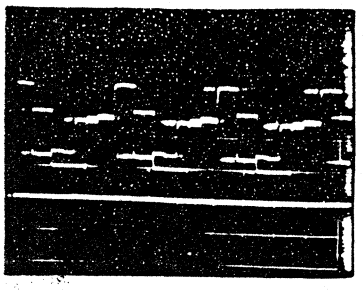
M-14
3-1977



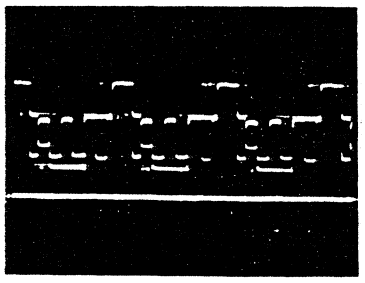
37 5V P-P (H)



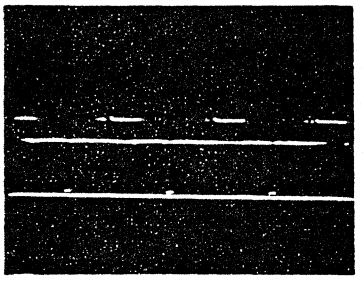
38 180V P-P (H)



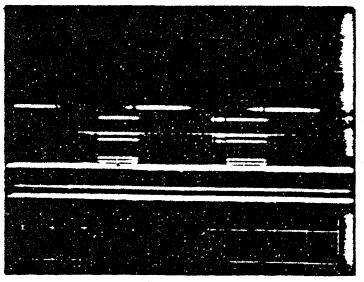
39 180V P-P (H)



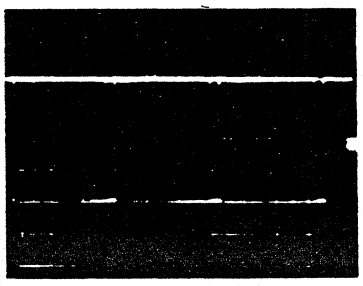
40 180V P-P (H)



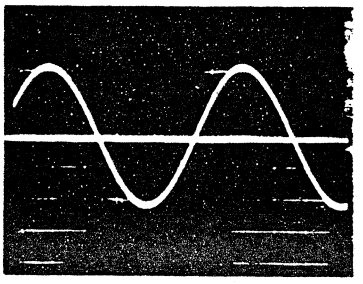
41 5.2V P-P (H)



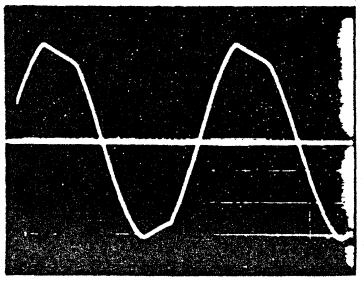
42 2.8V P-P (V)



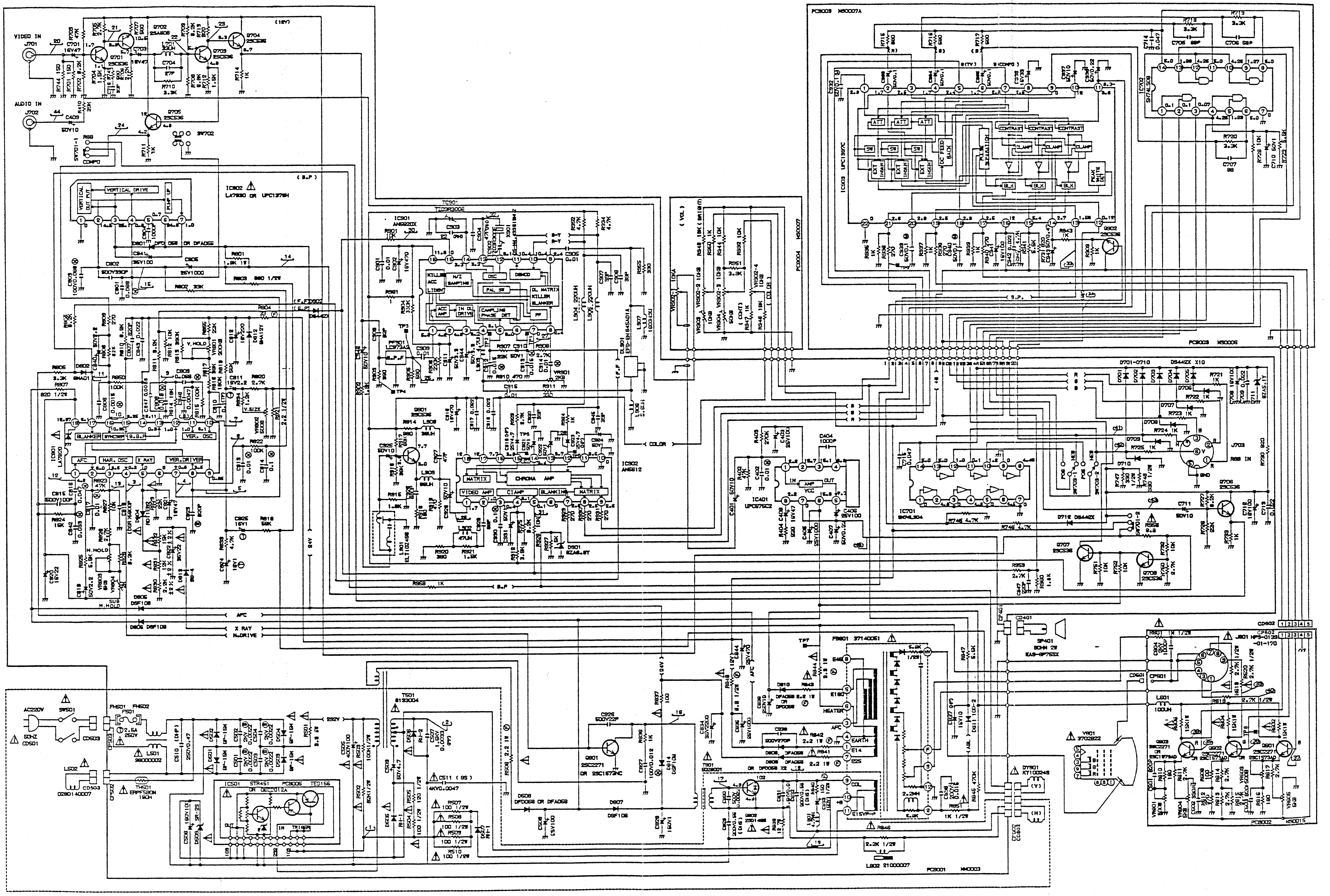
43 3.8V P- P (H)



44 920mV P-P (0.2ms)



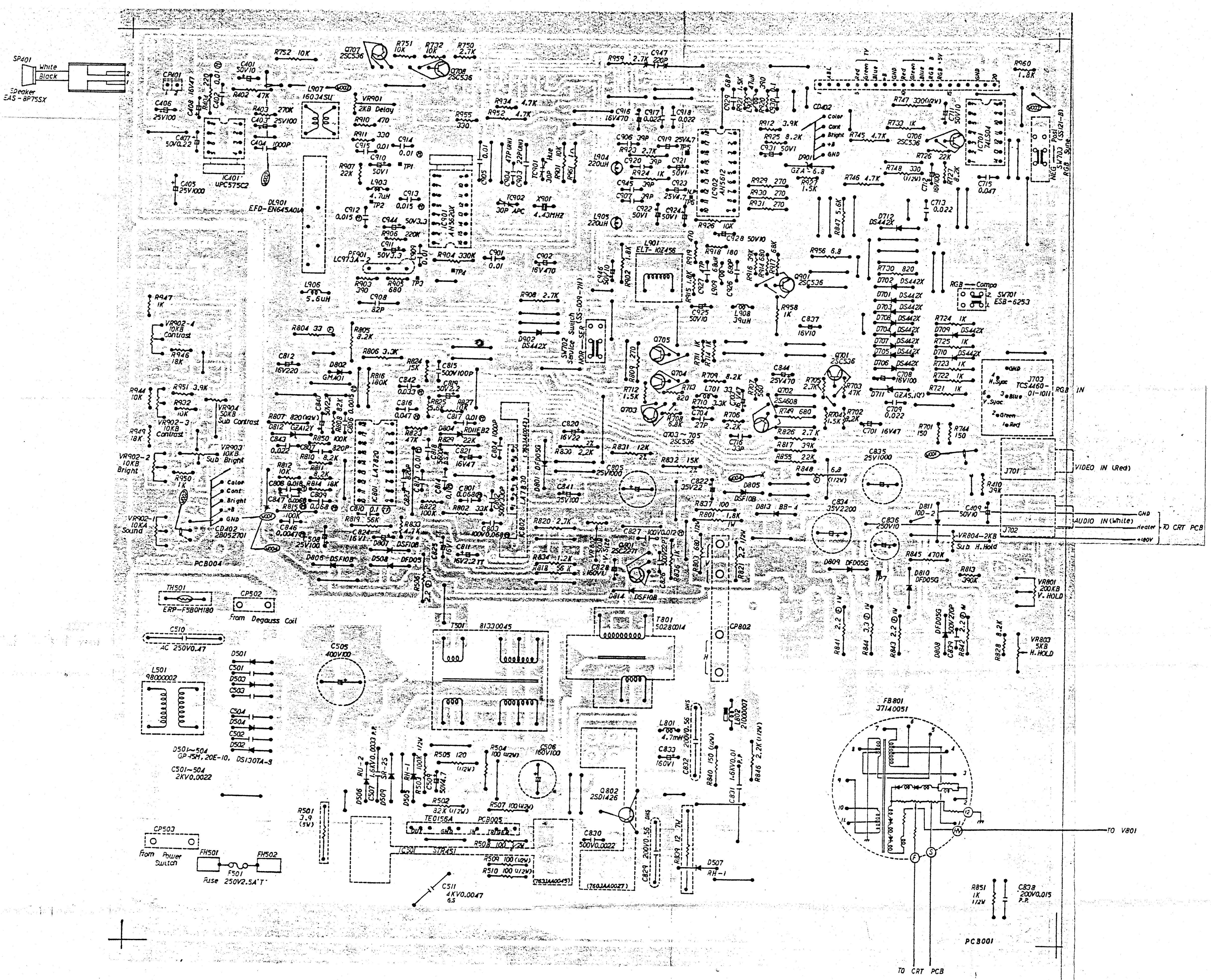
45 12.4V P-P (0.2ms)

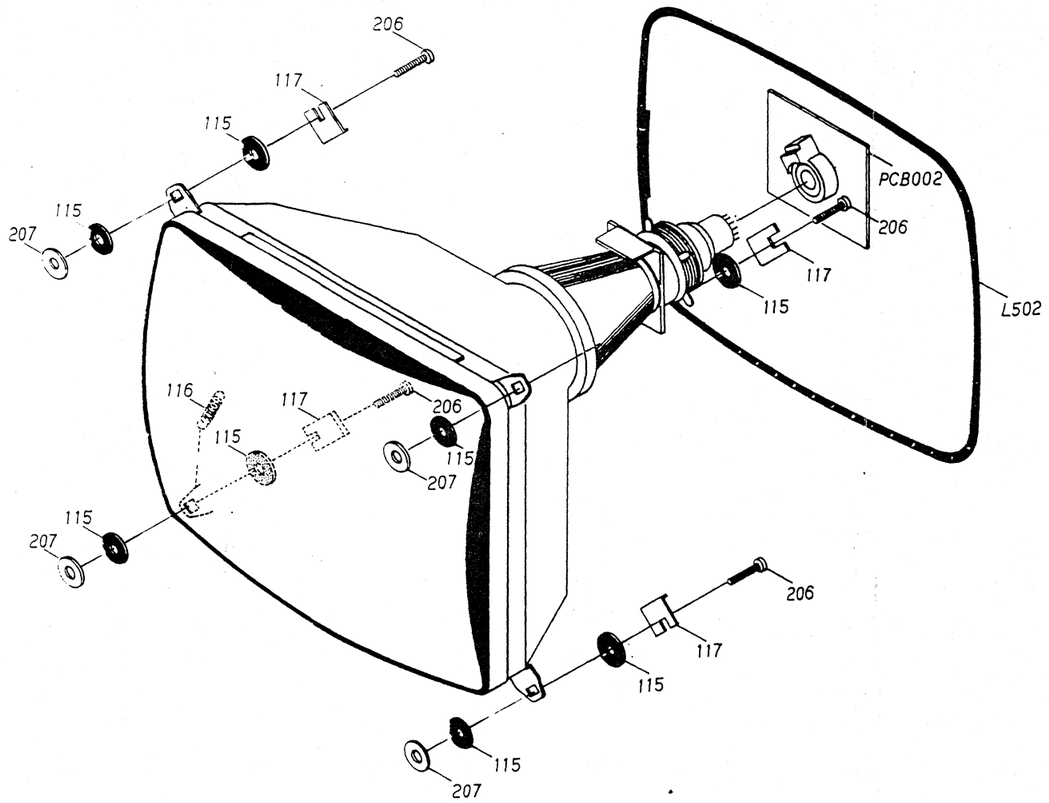


VIDEO IN
J701
AUDIO IN
J702
Q701 2SC536
Q702 2SA608
Q703 2SC536
Q704 2SC536
Q705 2SC536
SW701-1
SW702
RGB
COMPO
(12V)
IC802 LA7830 OR UPC1378H
VERTICAL OUT PUT
VERTICAL DRIVE
PUMP UP
D801 DFC 058 OR DFA058
(B.P)
IC801 LA7820
BLANKER
SYNC SEP
B.B.F
VER. OSC
AFC
HAR. OSC
X RAY
VER. DRIVER
V. HOLD
V.SIZE
H.HOLD
SUB H.HOLD
D805 DSF108
D806 DSF108
AFC
X RAY
H.DRIVE
TC901 TZ03R300E
IC901 AN5620X
KILLER
ACC
L.IDENT
H/2 SAMPLING
OSC
DEMOD
PAL SW
DL MATRIX KILLER BLANKER
ACC AMP
1H DL DRIVE
SAMPLING PHASE DET
FF
B-Y
R-Y
PF901 LC973A
B.P.F
TP3
TP4
DL901 EFD-EN645A01A
(F.F)
Q901 2SC536
IC902 AN5612
MATRIX
CHROMA AMP
VIDEO AMP
CLAMP
BLANKING
MATRIX
L901 ELT1024S8
D901 SZA6.8Y
(COLOR)
(VOL)
(BRIGHT)
(CONT)
(COLOR)
VR902-1 10KA
VR902-2 10KB
VR902-3 10KB
VR902-4 10KB
VR903
VR904
PC9004 M50007
IC401 UPC575C2
AMP
VCC
IN
OUT
PC9003 M50007A
IC903 UPC1997C
ATT
SW
EXT INSERT
DC FEED BACK
PULSE SEPARATION
CONTRAST
CLAMP
BLK
PEAK WHITE DET
Q902 2SC536
IC702 SN74LS08
(S.P.)
PC9003 M50006
D701-D710 DS442X X10
J703
RGB IN
IC701 SN74LS04
SW703-1
SW703-2
Q706 2SC536
Q707 2SC536
Q708 2SC536
D712 DS442X
SW701-2
CP401
CD401
SP401 8OHM 2W EAS-8P75SX
CD602
CP602
J801 HPS-0139-01-170
CP601
CD601
V801 3702822
DY801 KY10024S
(V)
(H)
Q601 2SC2271 OR 2SC1573AD
Q602 2SC2271 OR 2SC1573AD
Q603 2SC2271 OR 2SC1573AD
PC8002 K50015
AC220V
50HZ
CD501
SW501
CD503
FH501 FH502
F501 2.5A 250V
L501 98000002
L502
TH501 ERPF580M 190H
IC501 STR451 PC8006 TE0156 OR DEC2012A
TRIGER
(292V)
T501 8133004
C511 (BS) 4KV0.0047
D508 DFD058 OR DFA058
D807 DSF108
Q801 2SC2271 OR 2SC1573NC
(24V)
T801 SD29001
Q802 2SD1488
FB801 37140051
TP7
HEATER
EARTH
E14
E25
COL
E15VP-P
(12V)
(ABL)
L802 21000007
PC8001 M40003

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITS N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.


SP401
White
Black
Speaker
EAS-8P75SX
CP401
IC401
uPC575C2
DL901
EFD-EN6I5A0IA
VR901
2KB Delay
IC901
AN5620X
IC902
AN5612
X901
4.43MHZ
TC902
30P APC
L901
ELT-10Z456
SW702
Service Switch
NOR — SER (SS-009-7H)
IC701
74LS04
SW703
NEG Posi (SS121-B)
RGB Sync
SW701
ESB-6253
RGB — Compo
J703
TCS4460-01-1011
RGB IN
J701
VIDEO IN (Red)
J702
AUDIO IN (White)
GND
Heater
+180V
TO CRT PCB
VR804-2KB
Sub H.Hold
VR801
200KB
V.HOLD
VR803
5KB
H.HOLD
IC801
LA7820
IC802
LA7830
CD402
2B052701
Color
Cont
Bright
+B
GND
VR902-1
10KA
Sound
VR902-2
10KB
Bright
VR903
10KB
Sub Bright
VR902-3
10KB
Contrast
VR904
50KB
Sub Contrast
VR902-4
10KB
Contrast
PCB004
TH501
ERP-F5B0M180
CP502
From Degauss Coil
C510
AC 250V0.47
L501
98000002
D501~504
GP-15H, 20E-10, DS130TA-S
C501~504
2KV0.0022
C505
400V100
T501
81330045
T801
50280014
CP802
IC501
STR451
PCB005
TE0156A
Q802
2SD1426
C511
4KV0.0047
CP503
From Power Switch
FH501
FH502
F501
Fuse 250V2.5A"T"
FB801
37140051
TO V801
R851
1K
1/2W
C838
200V0.015
P.P.
PCB001
TO CRT PCB


206
117
115
207
115
PCB002
206
117
115
L502
116
117
206
115
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207
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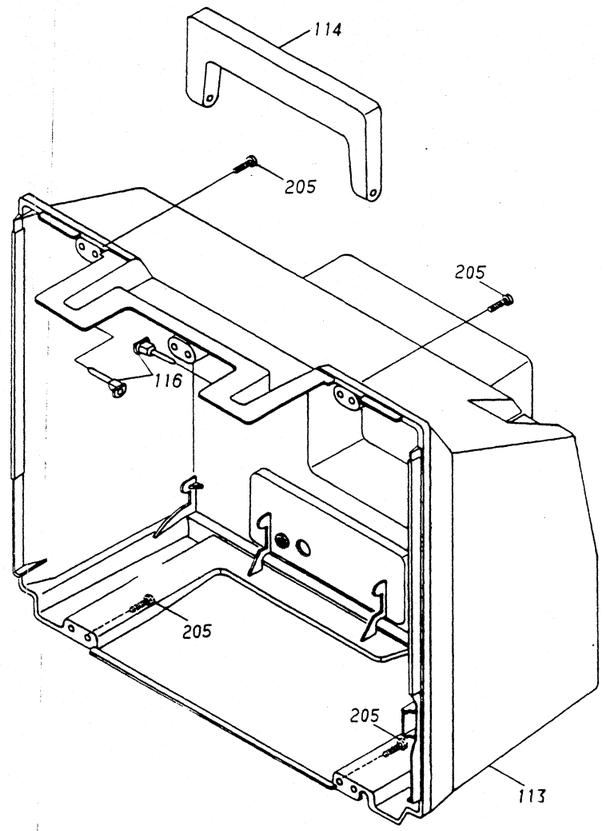
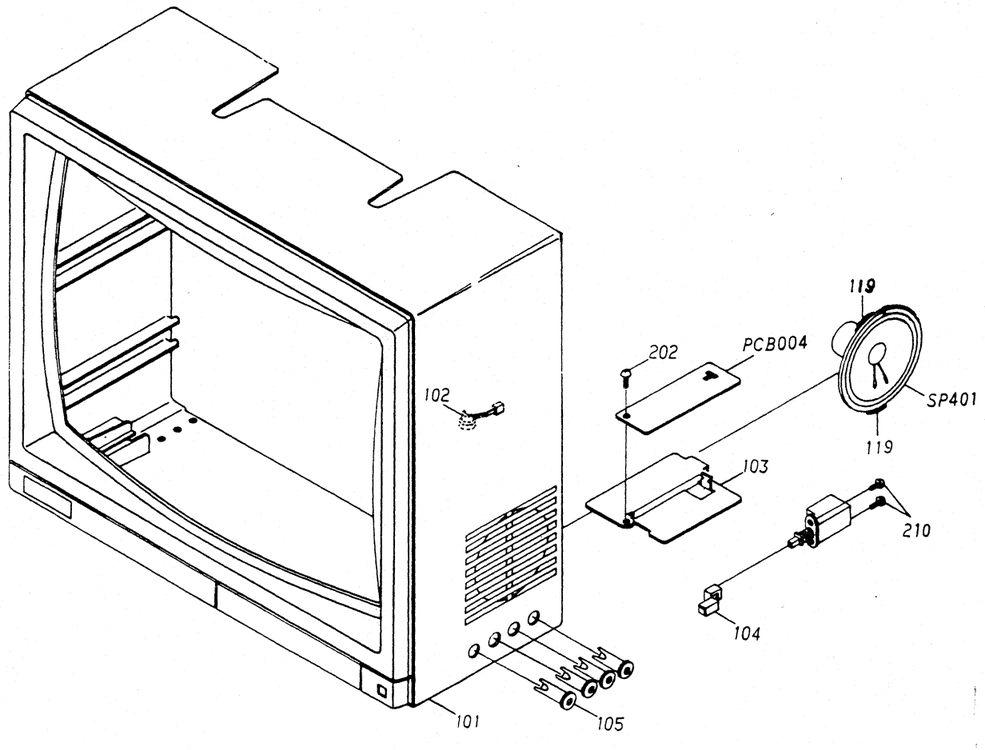
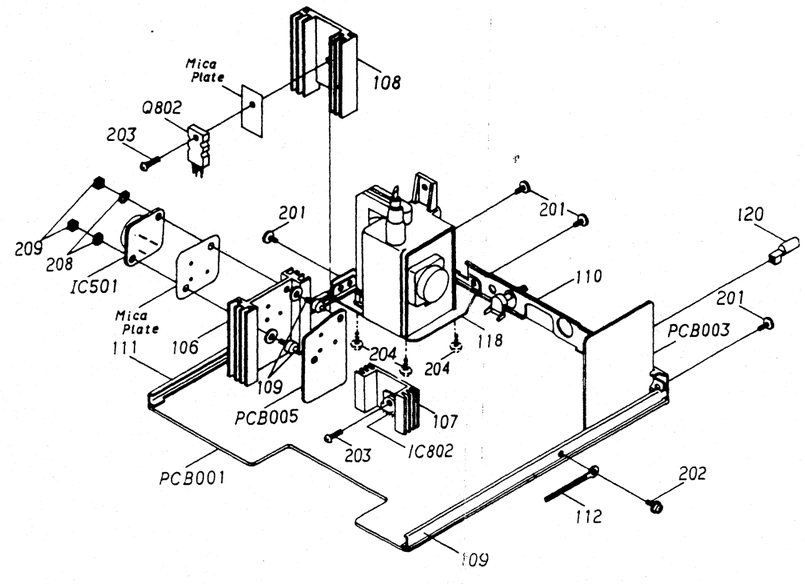
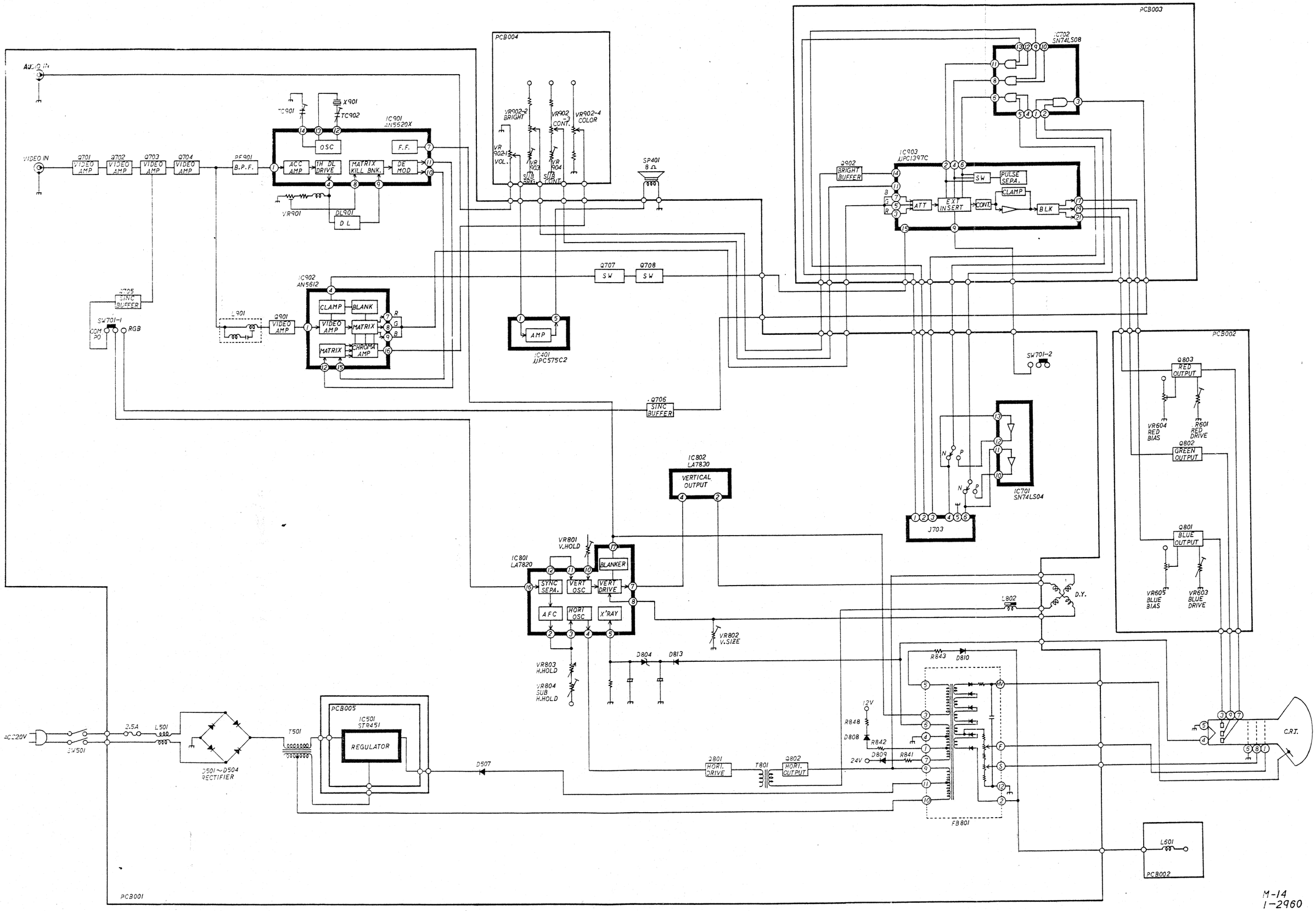
207
206
117
115
115
207


114
205
205
116
205
205
113


119
202
PCB004
SP401
102
103
119
210
104
101
105


Mica Plate
108
Q802
203
209
208
IC501
201
201
120
110
201
Mica Plate
111
106
204
204
118
PCB003
109
PCB005
107
203
IC802
PCB001
202
112
109

M14
1-2949


AUDIO IN
VIDEO IN
Q701 VIDEO AMP
Q702 VIDEO AMP
Q703 VIDEO AMP
Q704 VIDEO AMP
PF901 B.P.F.
TC901
X901
TC902
IC901 AN5520X
OSC
ACC AMP
1H DL DRIVE
MATRIX KILL BNK.
DE MOD
F.F.
VR901
DL901
D L
PCB004
VR902-2 BRIGHT
VR902 CONT.
VR902-4 COLOR
VR902-1 VOL.
VR903 SUB BRIGHT
VR904 SUB CONT.
SP401 8Ω
PCB003
IC702 SN74LS08
IC903 UPC1397C
Q902 BRIGHT BUFFER
SW
PULSE SEPA.
CLAMP
ATT
EXT INSERT
CONT.
BLK
Q705 SYNC BUFFER
SW701-1
COMPO
RGB
L901
Q901 VIDEO AMP
IC902 AN5612
CLAMP
BLANK
VIDEO AMP
MATRIX
CHROMA AMP
R
G
B
Q707 SW
Q708 SW
IC401 UPC575C2
AMP
Q706 SYNC BUFFER
SW701-2
IC701 SN74LS04
J703
PCB002
Q803 RED OUTPUT
VR604 RED BIAS
R601 RED DRIVE
Q802 GREEN OUTPUT
Q801 BLUE OUTPUT
VR605 BLUE BIAS
VR603 BLUE DRIVE
IC802 LA7830
VERTICAL OUTPUT
VR801 V.HOLD
IC801 LA7820
BLANKER
SYNC SEPA.
VERT OSC
VERT DRIVE
AFC
HORI OSC
X'RAY
VR802 V.SIZE
VR803 H.HOLD
VR804 SUB H.HOLD
D804
D813
L802
D.Y.
R843
D810
12V
R848
D808
R842
D809
24V
R841
FB801
C.R.T.
AC220V
SW501
2.5A
L501
D501~D504 RECTIFIER
T501
PCB005
IC501 STR451
REGULATOR
D507
Q801 HORI. DRIVE
T801
Q802 HORI. OUTPUT
L501
PCB002
PCB001

M-14
1-2960